IMPROVING THE ATTITUDES OF TYPICALLY DEVELOPING PEERS TOWARD DISABILITY IN INCLUSION SETTINGS

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Abstract

Presently, over six million students with disabilities in the United States receive their education in inclusion settings. The effectiveness of the inclusion model is in question as students with disabilities consistently demonstrate low achievement in both math and literacy. A significant social-participation gap between students with disabilities and their typically developing (TD) peers is a large contributor to the academic achievement gap in inclusion settings. The social psychological perspective highlights the negative attitudes of peers toward disability as a major barrier to the social and academic success of students with disabilities. The literature demonstrates disability awareness interventions (DAIs), and in particular cognitive-behavioral DAIs, are an effective means to improve cognitive, affective, and behavioral attitudes toward disability. This study investigated the efficacy of a nine-week, cognitive behavioral DAI in an inclusion kindergarten classroom at a public elementary school. Results indicated participation in the cognitive-behavioral DAI led to a statistically significant improvement in TD peers affective and behavioral attitudes toward disability as well as an increase in reciprocal friendships, increase in positive interactions, decrease in negative interactions, and decrease in isolation experienced by students with disabilities.

Keywords: attitude, inclusion, disability, disability awareness intervention, friendship, social interaction, social participation

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Table of Contents

List of Tables

List of Figures

Chapter 1: Executive Summary

The Individuals with Disabilities Education Act (IDEA), passed by Congress in 1975, mandated that all students, ages 3-21, found eligible for services under the law would receive a free and appropriate education (FAPE) made effective and meaningful for each student through an Individualized Education Program (IEP) implemented in the least restrictive environment (LRE) (Turnbull, Huerta, & Stowe, 2004). The law's emphasis on students receiving their education in the LRE resulted in a significant increase in the number of students with disabilities being placed in inclusion classrooms with their typically developing (TD) peers. Currently, over six million students with disabilities receive their education in inclusive settings in the United States (USDE, 2015).

Problem of Practice

The efficacy of the inclusion model is up for debate, as a profound achievement gap exists between students with disabilities and their TD peers (Blackorby et al., 2010; Chudowsky et al., 2009; Eckes & Swando, 2009). On standardized tests, students with disabilities consistently demonstrate low achievement in both math and literacy. Differences in standardized test performance between students with and without disabilities are profound, with disparities typically exceeding 30-40 percentage points across subjects (Blackorby et al., 2010; Chudowsky et al., 2009).

A major contributor to the academic achievement gap experienced by students with disabilities in inclusion settings is the social participation gap experienced by students with disabilities (Holt, 2003; Lynch et al., 2013; Stoneman, 1993). Research reveals that many students with disabilities remain socially segregated within general

education environments (Holt, 2003). The literature highlights the influence of negative peer attitudes toward disability on the social participation gap experienced by students with disabilities in inclusion settings (Diamond, Le Furgy, & Blass, 1993; Hoza et al., 2005; Tipton, Christensen, & Blacher, 2013). In inclusive classrooms, students with disabilities experience significantly fewer positive peer interactions (Tipton et al., 2013), significantly lower friendship quality (Tipton et al., 2013) and have fewer reciprocal friendships (Diamond, et al., 1993) than their TD peers. The theoretical work of Lev Vygotsky emphasizes the influence of social interaction on learning (Vygotsky, 1978). Vygotsky's (1978) sociocultural theory asserts that it is not simply an interaction between a learner's previous knowledge and the environment that initiates knowledge construction, but also the conversations, interactions and collective work between learners that yields both individual and shared knowledge construction. This idea demonstrates how low social participation levels can negatively impact the learning experiences of students within the classroom environment.

Needs Assessment

A needs assessment conducted at an elementary school in a large urban public school system in the Mid-Atlantic region, referred to throughout this paper as Green Acaedmy, examined the academic and social participation achievement gaps experienced by students with disabilities at the school. Additionally, it explored the attitudes of teachers and peers toward disability on campus. The four research questions were as follows:

RQ1: How are students with disabilities socially accepted by their TD peers in inclusion settings?

RQ2: How does friendship quality vary between students with and without disabilities?

RQ3: In what ways does the disability label affect GE teacher perceptions of students with disabilities?

RQ4: How does the disability label affect GE teacher's academic expectations of students with disabilities?

Existing assessment data available for the school district and school was used to investigate the achievement gap between students with disabilities and their TD peers for the 2013-2014 school year. The existing data demonstrated that at Green Academy students with disabilities fall significantly below their TD peers in academic achievement across grade levels. For example, in the early childhood classrooms students with disabilities achieved 58% of the academic yearly growth goals, while their TD peers achieved 92%. Additionally, in the testing grades at Green Academy (third through fifth grade), general education students were 76.9% proficient in reading and 75.9% proficient in math, while students with disabilities were only 20% proficient in reading and 22.5% proficient in math.

A survey adapted from De Boer's (2012) Attitude Survey for Inclusive Education-Teacher (ASIE-T) was administered to Green Academy's general education teachers in the spring of 2015. The survey was designed to explore the social participation gap between students with disabilities and their TD peers as well as the attitudes of teacher and peers toward disability at Green Academy. Research Question 1 explored the level of social acceptance and kindness experienced by students with disabilities in Green Academy's inclusion classrooms. Survey results indicated that peer

acceptance levels were moderately high and peer kindness levels were moderate. Research Question 2 examined levels of friendship quality experienced by students with disabilities in Green Academy's inclusion classrooms. When asked if students with disabilities have strong friendships with TD peers in their classrooms, a majority of teachers responded rarely (63.1%), and others responded never (10.5%). Additionally, a majority of teachers reported that TD peers rarely (57%) or never (10.5%) invited students with disabilities to be their partners in the classroom and sometimes (63.1%) or rarely (15.7%) invited students with disabilities to play at recess. Research Question 3 examined the ways in which the disability label affected general education teacher perceptions of students with disabilities. Survey results indicated mixed findings regarding teacher's reported levels of confidence, ability, and preparedness in meeting the needs of students with disabilities in their classrooms. Research Question 4 investigated general education teachers' academic expectations of students with disabilities in their classroom. Results indicated that Green Academy's general education teachers hold significantly higher academic expectations of TD students than the students with disabilities in their inclusion classrooms.

From the needs assessment data, friendship quality stood out as a variable with significant room for improvement and intervention. Specifically, students with disabilities friendship strength received the lowest overall rating from teachers. This data, as well as considerations regarding feasibility, and Green Academy staff support, resulted in the author continuing the study with an exclusive focus on the impact of peer attitudes on the social participation and academic achievement gaps experienced by students with disabilities in inclusion settings.

Evidence-Based Intervention

Empirical research. There are multiple research-based disability awareness interventions (DAIs) currently available for students preschool through college. The goal of DAIs is to increase knowledge, positive attitudes and acceptance of people with disabilities (Lindsay & Edwards, 2013). DAIs fall into three main categories: cognitive, behavioral, and cognitive-behavioral. Cognitive-behavioral DAIs, which combine information-based and contact-based components, are the most effective (Favazza & Odom, 1997; Ison et al., 2010; Krahe & Altwasser, 2006). Cognitive components include activities such as presentations, videos, puppet shows, and structured story times that give participants information about disabilities. Behavioral components include activities such as structured interactions and structures play times between participants and people with disabilities (Lindsay & Edwards, 2013).

Multiple studies have concluded that for significant long-term change in the attitudes of young children toward disability, interventions should combine cognitive components with high-contact behavioral components (De Boer, Pijl, Minnaert, & Post, 2014; Favazza & Odom, 1997; Ison et al., 2010; Krahe & Altwasser, 2006). Because improved peer attitudes toward disability increase students with disabilities social participation (Nowicki & Sandieson, 2002), and increased social participation is associated with academic achievement (Lynch et al., 2013), cognitive-behavioral DAIs have the potential to ameliorate the significant social participation and achievement gaps experience by students with disabilities in the United States. Consequently, in the following study, the researcher will implement a cognitive-behavioral DAI in Green Academy's kindergarten classrooms in an attempt to improve peer attitudes toward

disability and the social participation of students with disabilities in an inclusion setting.

Intervention procedure and evaluation methods. This evaluation utilized a convergent-parallel, mixed-methods approach to investigate the efficacy of a cognitive-behavioral DAI to improve peer attitudes toward disability and increase the social participation of students with disabilities in Green Academy's inclusion kindergarten classrooms. The intervention's cognitive component was a structured-story time based Favazza and Odom's (1997) seminal 'Special Friends' program in which teachers read books to children that portray friendships between students with and without disabilities and facilitate subsequent group discussions. The behavioral component of the intervention was a high-contact structured play activity designed specifically for high levels of interaction between students with and without disabilities. Every intervention session included a 20-minute structured story time, followed by a 15-minute high-contact structured play activity. In total, the intervention included 27 sessions, occurring three times a week over a period of nine weeks. The researcher randomly selected one of Green Academy's inclusion kindergarten classrooms to serve as the treatment group and one classroom to serve as the control group. The following research questions investigated the efficacy of the cognitive-behavioral DAI to influence the attitudes of typically developing peers toward disability and the social participation of students with disabilities and in inclusive settings:

RQ1: How does the implementation of a cognitive-behavioral DAI influence the affective and behavioral attitudes of typically developing peers toward disability?

RQ2: In what ways does the implementation of a cognitive-behavioral DAI impact the time students with disabilities spend engaged in isolated play, parallel play, positive interactions with peers and negative interactions with peers?

RQ3: How does the implementation of a cognitive-behavioral DAI influence the social network and number of reciprocal friendships for students with disabilities within the classroom?

RQ4: To what extent is the cognitive-behavioral DAI implemented in compliance with the researcher's intended quality and quantity in Green Academy's kindergarten inclusion classroom?

Six tools were used to collect data associated with the four preceding research questions. The *Acceptance Scale for Kindergartners-Revised* (ASK-R), created by Favazza, Phillipsen, and Kumar (2000) was used to measure change in TD peers' affective and behavioral attitudes toward disability. The researcher developed a social participation observation protocol, monitoring time engaged in positive, negative and neutral interactions, time spent in isolation, and number of invitations to play made and received, to investigate the influence of the intervention on the social participation of students with disabilities during their regular recess time. A social network survey, based on the work of Cairns and Cairns (1994), was be used to measure the quantity of reciprocal friendships experienced by students with disabilities. Finally, a cognitive-component adherence fidelity checklist, a behavioral-component adherence fidelity checklist, a session log, and a participation log were used to measure the intervention's fidelity of implementation.

Data Analysis and Findings

Overall, data analysis demonstrated that participation in the nine-week, cognitive-behavioral DAI positively influenced the affective and behavioral attitudes of TD peers toward disability and the social participation of students with disabilities in an inclusion kindergarten classroom at Green Academy. Results indicated that participation in the cognitive-behavioral DAI led to a statistically significant improvement in TD peers affective and behavioral attitudes toward disability. Mean pre-test ASK-R scores for participants in the treatment and control groups were 19.94 and 19.25 respectively. Immediately following the intervention, the mean ASK-R scores for participants in the treatment group increased by 9.4 points to 29.35, while participants in the control group increased by only 1.38 points to 20.63. Additionally, participation in the cognitive-behavioral DAI positively influenced the social interactions of students with disabilities. Students with disabilities in the treatment group experienced a 30% increase in positive interaction, a 5.57% decrease in negative interactions, and a 23.34% decrease in isolation during recess time with their peers. Finally, the students with disabilities who participated in the DAI gained four reciprocal friendships and two reciprocal best-friendships throughout the intervention.

The principal investigator previously determined that the program would be considered to have high fidelity if each of the four indicators was assessed at 95% fidelity. Cognitive component discussion adherence had 100% fidelity, behavioral component adherence had 98% fidelity for TD peers and 100% fidelity for students with disabilities, schedule adherence had 100% fidelity, and participant attendance had 96.08% fidelity for TD peers and 95.06% for students with disabilities. As a result, the program was considered to have high fidelity for both quality and quantity measures.

Conclusion

In conclusion, learning is a social process (Vygotsky, 1978). The negative attitudes of TD peers toward disability act as barriers to the social and academic success of students with disabilities in inclusion classrooms (Diamond & Huang, 2005; Holt, 2003; Lynch et al., 2013; Nowicki & Sandieson, 2002; Stoneman, 1993). This research study investigated the ability of a nine-week, cognitive-behavioral DAI to influence the affective and behavioral attitudes of TD peers toward disability, increase the social interaction of students with disabilities, and improve the quantity of reciprocal friendships and best-friendships for students with disabilities in inclusion kindergarten classrooms. Overall, the attitudes of TD peers toward disability and the social participation of students with disabilities in kindergarten inclusion classrooms were positively influenced. While further research is needed to generalize these findings, educators can apply this study's findings in their school settings. First, they can apply the findings in their classrooms by including high quality literature that feature characters with disabilities in their classroom libraries, incorporating reading these books into their curriculum, and utilizing an intergroup storytelling approach when reading the books aloud. Second, they can apply the findings to students recess time by designing the school's schedule such that students with and without disabilities are on the playground at the same time to the highest extent possible and incorporating the facilitation of high-contact, interactive games with groups of students with and without disabilities into their outdoor recess routines.

Chapter 2: Introduction

In the United States, the evolution of special education has been closely tied to the country's history of civil and disability rights. Interwoven within these powerful movements, special education endured cycles of progress and regresses, largely influenced by educational law and policy including the Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act (Dorn, Fuchs, & Fuchs, 1996; Martin, Martin, & Terman, 1996). IDEA, passed by Congress in 1975, mandated that all students, ages 3-21, found eligible for services under the law would receive a free appropriate public education (FAPE) made effective and meaningful for each student through an Individualized Education Program (IEP) implemented in the LRE (Turnbull et al., 2004). IDEA's mandate to teach students with disabilities in the LRE stressed the utilization of accommodations and modifications in the general education classroom setting before assigning a child to a more restrictive placement, such as a special education classroom or school (Dorn et al., 1996). As a result, an increasing number of students with disabilities were placed in inclusion settings throughout the country. The term "inclusion setting" currently has many uses and definitions in special education literature (Ryndak, Jackson, & Billingsley, 2000). In this paper, an inclusion setting will be defined as a placement in a regular school where a student spends at least 40% of instructional time in the general education classroom.

Statement of Problem

In 2013, over 6.6 million students with disabilities received special education services in the United States, comprising over 13% of total public school enrollment. Of those 6.6 million students, 95% received special education services in an inclusion setting

(Aud et al., 2013; Harr-Robins et al., 2013; USDE, 2015). Presently, the efficacy of special education inclusion services is in question as students with disabilities demonstrate consistently low achievement in both math and literacy (Blackorby et al., 2010; Chudowsky et al., 2009). The negative attitudes of teachers (Burke & Sutherland, 2004; Scruggs & Mastropieri, 1996; Shade & Stewart, 2001) and peers (Diamond & Huang, 2005; Lynch et al., 2013; Nowicki & Sandieson, 2002) toward disability contribute to a significant social-participation gap between students with disabilities and their typically developing (TD) peers. In inclusive classrooms, students with disabilities experience significantly fewer positive peer interactions (Tipton et al., 2013), significantly lower friendship quality (Tipton et al., 2013) and have fewer reciprocal friendships (Diamond et al., 1993) than their TD peers. This social participation gap directly contributes to the pervasive academic achievement gap in inclusion settings nationwide (Holt, 2003; Lynch et al., 2013; Stoneman, 1993).

Review of the Literature

This interdisciplinary review of the literature will illustrate the chronic patterns of low academic achievement in students with disabilities and the context of special education inclusion services in the United States. Framed by social constructivism and sociocultural theory, this review will investigate the impact of teacher and peer attitudes toward disability on the social participation and ultimately the academic achievement of students with disabilities in the inclusion setting.

Patterns of Low Academic Achievement

Following the reauthorization of IDEA in 2004, the United States Department of Education began a longitudinal national assessment to measure the academic success and

progress of students with disabilities receiving special education services. Analyzing 14 national datasets, including the National Assessment of Education Progress (NAEP), researchers determined that both preschool aged (3-5 years old) and school aged (6-21 years old) students with disabilities performed significantly lower than their TD peers in almost every measure of academic achievement (Blackorby et al., 2010). Further, students with disabilities experience the largest achievement gap of any subgroup for which disaggregated achievement data is regularly reported in the United States (Eckes & Swando, 2009). This profound achievement gap was demonstrated in Eckes and Swando's (2009) comprehensive comparison of math and literacy proficiency levels for various subgroups of students in California, Florida and Texas public schools. In literacy, the special education subgroup was 20.8% proficient, while the socioeconomically disadvantaged, limited English proficiency, African American and Hispanic subgroups were 35.2%, 30.5%, 37.5% and 36.6% proficient respectively. An even larger gap exists in math, as the special education subgroup was 25.5% proficient, while the socioeconomically disadvantaged, limited English proficiency, African American and Hispanic subgroups were 41.9%, 41.9%, 37% and 43% proficient respectively (Eckes & Swando, 2009).

Students with disabilities receiving preschool services performed comparably to their TD peers on letter and word identification skills, but performed significantly lower on vocabulary tests, numeracy tests, functional pre-academic tests and social skill measures (Blackorby et al., 2010). Students with disabilities receiving elementary through high-school services performed significantly lower than their TD peers on NAEP tests in reading and math (Blackorby et al., 2010). Standardized state test scores varied

state by state, with the percentage of students with disabilities earning "proficient or above" ratings ranging from 2-19% and 2-26% in reading and mathematics respectively (Blackorby et al., 2010). Overall, the national assessment demonstrated that students with disabilities were significantly behind their TD peers in both math and literacy measures.

The Center on Education Policy demonstrated similar findings in their analysis of national standardized test score trends from 2006-2008 (Chudowsky et al., 2009). Researchers concluded that the differences in test performance between students with disabilities and their TD peers were very large, with disparities in percentage proficient typically exceeding 30-40 percentage points in both reading and math (Chudowsky et al., 2009). However, progress was illustrated in preschool and elementary special education services, finding that on fourth grade standardized tests, students with disabilities made progress at all three achievement levels: basic, proficient and advanced (Chudowsky et al., 2009). While this incremental improvement demonstrates progress, further research and intervention are necessary in supporting, accelerating and normalizing high academic achievement for students with disabilities in American public schools (Blackorby et al., 2010; Chudowsky et al., 2009).

Context of American Special Education

Population statistics. Following the 1975 enactment of IDEA, the number of students receiving special education services in American public schools has continued to increase significantly. From 1980 to 2013, the number of students ages 3-21 receiving special education services increased from 4.1 to 6.6 million (Aud et al., 2013; USDE, 2015). Of those students, 95% receive services in inclusion settings, 3% were enrolled in separate special education schools, 1% were placed by their parents in private schools

and less than 1% each were placed in residential facilities, hospitals or correctional facilities (Aud et al., 2013; USDE, 2015). The distribution of disability types for students ages three through five were as follows: speech or language impairment (44.2%), developmental delay (37.1%), Autism Spectrum Disorder (8.4%), other disabilities combined (10.3%) (USDE, 2015). The distribution of disability types for students ages six through twenty-one were as follows: specific learning disability (39.5%), speech or language impairment (17.9%), other health impairment (13.8%), Autism Spectrum Disorder (8.2%), intellectual disability (7.1%), emotional disturbance (6%), other disabilities combined (7.4%) (Aud et al., 2013; USDE, 2015).

Overrepresentation of African American and low-income students. It is imperative to consider the widely demonstrated overrepresentation of African American and low-income students receiving special education services (Artiles, Rueda, Salazar & Higareda, 2005; Berhanu, 2008; Blair & Scott, 2002; Ferri & Connor, 2010; Harry & Klinger, 2006; Sullivan & Ball, 2013; Zhang & Katsiyannis, 2002; Zhang, Katsiyannis, Song & Roberts, 2014). In a recent study, Sullivan and Ball (2013) analyzed school level data of 18,000 students from 39 schools in an urban school system in order to compute risk indexes for the special education placement of various demographic groups. Using a multi-variate hierarchical model, the authors concluded race and socioeconomic status (SES) were significant predictors of risk for special education placement. Additionally, both African American and lower income students were 2.8 times more likely to be identified for special education than their White and higher SES peers, with the exception of low-incidence diagnoses such as sight and hearing impairments (Sullivan & Ball, 2013).

Zhang et al. (2014) corroborated race as a predictor of special education placement on a national scale through the analysis of data from various federal government publications, including the *22nd Annual Report to Congress on the Implementation of the IDEA, The National Center for Education Statistics: Statistics in Brief,* and *Poverty in the United States.* Results again demonstrated that in all disability categories, with the exception of low-incidence disabilities, African American, American Indian/Alaskan Native and Hispanic students are more heavily represented than White, Asian, and Pacific Islander students. Racial overrepresentation was the most significant in the intellectual disability category (Zhang et al., 2014). Blair and Scott (2002) corroborated SES as a predictor of special education placement in a large-scale study of the Florida public school system. Using data linkage methodology and epidemiological statistics, the authors concluded that 30% of male LD placements and 39% of female LD placements were attributable to low SES markers. Furthermore, children with the following birth-related risk factors were between 1.2 and 3.4 times more likely to have a specific learning disability placement by age 14: maternal education of less than 12 years, mother unmarried at birth, prenatal care initiation after the first trimester and low birth weight (Blaire & Scott, 2002). Other researchers (Skiba et al., 2005; Skiba et al., 2008) argue that SES does not strongly influence special education placement. Skiba et al. (2008) assert that race is the primary factor influencing special education placement, with poverty only acting as a magnifier of existing racial disparities.

The overrepresentation of African American and low-income students receiving special education services in the United States, illustrated above, is an important contextual factor to consider when exploring patterns of low academic achievement

among students with disabilities. Due to this overrepresentation, issues of race and SES are inherently intertwined with the primary factors contributing to the problem discussed below.

Contributing Factors

Each theoretical perspective provides a unique assessment of America's national crisis regarding low academic achievement of students with disabilities. Economic research reveals a persistent imbalance in the supply of and demand for special education (SE) teachers in America due to high turnover rates that negatively impact the quality of the workforce providing special education services throughout the country (Boe, Cook, & Sunderland, 2008; McLeskey, Tyler, & Flippin, 2004; Thorton, Peltier, & Medina, 2007). Anthropological research demonstrates the positive influence of parental involvement on academic achievement levels of students with disabilities (Berthelsen & Walker, 2008; Epstein & Sanders, 2002; Heward, 2009; Szumski & Karwowski, 2012) and the unfortunate reality that parent participation and collaboration of parents of students with disabilities in American public schools do not meet the mandates laid out in IDEA (Harry, 2008; Harry, Allen, & McLaughlin, 1995; Lea, 2006).

Social Psychological research reveals the impact of teacher and peer attitudes toward disability and inclusion on the social participation and academic achievement of students with disabilities and patterns of negative attitudes in classrooms across America (Burke & Sutherland, 2004; Everling, 2013; Lynch et al., 2013; Scruggs & Mastropieri, 1996; Shade & Steward, 2001). This paper focuses on the social psychological perspective, which will investigate the impact of peer and teacher attitudes on the social participation and academic achievement of students with disabilities in greater detail.

Theoretical Framework: Social Constructivism and Sociocultural Theory

Constructivism is an interdisciplinary theory of knowledge and learning that presents learning as the interactive process between the learner's prior experience and knowledge and the new information they encounter (Ernest, 2010; Piaget, 1952; von Glasersfeld, 2005). Utilizing architecture as a metaphor, constructivists envision that knowledge is uniquely built within the mind of each learner. In the late 1970's, Jean Piaget's (1952) seminal theory of constructivism began receiving criticism for its emphasis on the individual mind (Ernest, 2010). Piaget's (1952) conceptualization of constructivism was solely focused on one's individual construction of knowledge and did not account for the impact of interactions between learners during the process. Consequently, social constructivists such as Lev Vygotsky (1978) worked to provide a theory that merged both the idea of constructed knowledge and the influences of interaction between learners and more largely societal interconnectedness (Ernest, 2010).

The work of Vygotsky (1978), widely regarded as the founder of social constructivism, asserted that learning was a social and interactive process, highlighting the importance of cooperation and collaboration in learning environments. Vygotsky's (1978) sociocultural theory emphasized the linguistic nature of knowledge and along with it the collective symbols created through societal interaction and mediation that function as a crucial tool in the understanding and transmission of knowledge. Vygotsky (1978) argued that it is not simply an interaction between a learner's previous knowledge and the environment that initiates knowledge construction, but also the conversations, interactions and collective work between learners that yields both individual and shared knowledge construction. This notion is highlighted through Vygotsky's (1978) zone of

proximal development (ZPD), or the space between the learner's actual developmental level and their level for potential development. It is at this intersection that the interactions between a learner and another individual successfully support the learner's construction of new knowledge and ultimately a new ZPD (Vygotsky, 1978).

Social constructivism and sociocultural theory characterize learning as a social process (Ernest, 2010; Vygotsky, 1978). The quantity and quality of interactions between a student, their teacher, and their classmates contributes to their learning experience. The social participation of a student in their classroom influences the success of their academic achievement (Holt, 2003; Lynch et al., 2013; Stoneman, 1993). Social constructivism and sociocultural theory have powerful implications in the potential of the social participation levels of students with disabilities impacting the ability of students with disabilities to learn successfully in inclusion settings. Learning is a social and interactive process (Ernest, 2010; Vygotsky, 1978), and the relationships and interactions between students with disabilities and their peers and teachers within the classroom significantly influence the learning experience of students with disabilities in inclusion classrooms (Holt, 2003; Lynch et al., 2013; Stoneman, 1993).

Attitudes

Background. Social Psychological research demonstrates that the attitudes of teachers and peers toward inclusion and disability impact the academic achievement of students with disabilities beginning as early as preschool (Burke & Sutherland, 2004; Lynch et al., 2013; Shade & Steward, 2001). In an effort to better understand these interactions within the social context of the school, the relationship between attitudes, social participation, and academic achievement in inclusion settings will be examined.

The term attitude has several definitions throughout the literature (Ajzen, 2001; De Boer, Pijl, & Minnaert, 2012). Founding attitude theorist, Louis Thurstone (1931), defined attitude as an individual's affect for or against a psychological object. Gall, Borg and Gall's (1996) definition has been utilized in recent literature due to its broadness and inclusiveness: "An attitude is an individual's viewpoint or disposition toward a particular object" (p. 273; De Boer et al., 2012). Many researchers, however, concur that attitude is comprised of three main components that characterize one's viewpoint and disposition toward an object: cognitive, affective, and behavioral (De Boer et al., 2012; Ostrom, 1969). The cognitive, affective, and behavioral components illustrate one's thoughts, feelings, and actions toward an object respectively (De Boer et al., 2012). This common understanding of attitude will serve as the definition of the term throughout this paper.

Koster, Nakken, Pijl, and Van Houten (2009) conceptualized social participation in the classroom as: interaction, peer acceptance, friendship, and social-self perception. Of these four components, this literature review will primarily focus on peer acceptance and friendship. Mikami (2010) defines peer acceptance as being liked by a majority of peers and friendship as a close relationship that is mutual and reciprocal. Friendship is a more complex construct as it varies in quality and stability (Mikami, 2010).

Teacher attitudes. The success of students with disabilities in inclusion settings is significantly influenced by teachers' attitudes toward inclusion (Burke & Sutherland, 2004; Everling, 2013; Scruggs & Mastropieri, 1996; Shade & Stewart, 2001). Scruggs and Mastropieri (1996) summarized that while two-thirds of general education (GE) teachers support the idea of inclusion in theory, a much smaller majority are willing to implement the model in their own classroom practice. Research identified

unpreparedness and degree of disability as factors that contributed to unwillingness (De Boer et al., 2011; Scruggs & Mastropieri, 1996).

Sixty-six percent of teachers reported feeling unprepared as a result of inadequate time, training, and resources to successfully meet the educational needs of students with disabilities (Scruggs & Mastropieri, 1996). Corroborating this finding, De Boer et al. (2011) found that lack of knowledge, competence, and confidence were contributing factors in teacher's hesitation and negative attitudes toward inclusion. Scruggs and Mastropieri (1996) found that a teacher's willingness to teach students with disabilities in an inclusion setting was directly related to the severity of the disability. As disability levels increase, teacher's confidence and willingness levels decrease (Scruggs & Mastropieri, 1996). Worth (2013) refers to the relationship between attitude level and disability level as impairment effects.

The six million students in the United States receiving special education in an inclusion setting are receiving at least 40% of their instruction from a GE teacher (Aud et al., 2013). Accordingly, the negative attitudes of GE teachers toward inclusion and disability influenced by the low levels of knowledge, confidence and resources discussed above should be considered as potentially contributing factors in the students with disabilities' academic achievement and social participation gaps.

Peer attitudes. Peer attitudes toward disability and inclusion also impact the academic achievement of students with disabilities (Lynch et al., 2013). Inclusive education was intended to provide social benefits to students with and without disabilities by attending schools together (Flem & Keller, 2000). Inclusion in a general education setting however, does not guarantee students with disabilities will be socially included.

Research reveals that many students with disabilities remain socially segregated within general education environments (Holt, 2003). Peer attitudes have been identified as a prominent obstacle in the inclusion model (Nowicki & Sandieson, 2002). Negative attitudes toward disability can preclude students with disabilities from social participation in the school setting (Nowicki & Sandieson, 2002; Stoneman, 1993), and as a result negatively impacts academic achievement (Flook, Repetti, & Ullman, 2005; Lynch et al., 2013), adaptive functioning, and adjustment in adulthood (Bagwell, Schmidt, Newcomb, & Bukowski, 2001; Buhrmester, 1996; Orsmond, Shattuck, Cooper, Sterzing, & Anderson, 2013).

Friendship and peer acceptance are two constructs of social participation that have a particularly strong influence on academic achievement and overall school experience of students with disabilities (Koster et al., 2009; Lynch et al., 2013). Bukowski and Hoza (1989) identify three components of friendship: the presence or absence of a friendship, the number of friendships, and the quality of these friendships. High friendship quality has been defined by low levels of conflict and high levels of intimacy, warmth/closeness and positive reciprocity (Tipton et al., 2013). High quality friendships throughout childhood positively influence academic performance (Lynch et al., 2013) and are a predictor of better outcomes in adulthood due to increased levels of self-worth and interpersonal competence (Buhrmester, 1996; Orsmond et al., 2013).

Research demonstrates that there is often dissonance between the cognitive, affective, and behavioral attitudes of TD peers toward disability (Diamond et al., 1993; Nikolaraizi et al., 2005; Tipton et al., 2003). Nikolaraizi et al. (2005) utilized the *Acceptance Scale for Kindergartners-Revised* (ASK-R) and in-depth interviews of TD

peers in both inclusion and non-inclusion classrooms to analyze the cognitive and affective components of peer attitudes toward students with disabilities. They discovered that cognitively and affectively, peers in inclusion classrooms were accepting of peers with disabilities. Additionally, they were more accepting of peers with disabilities than those who were not in inclusion classrooms (Nikolaraizi et al., 2005). Although TD peers may have positive or neutral attitudes toward inclusion and students with disabilities in theory, these attitudes are not evident in their everyday interactions with students with disabilities in the school setting. The actions and interactions (behavioral) of peers are significantly more negative than their reported thoughts (cognitive) and feelings (affective) (Diamond et al., 1993; Tipton et al., 2013).

Tipton et al. (2013) investigated the differences in friendship quality between children with and without intellectual disabilities. They conducted open-ended interviews with over 100 13-year old adolescents and their mothers in the United States, concluding that adolescents with intellectual disabilities have lower quality friendships than their TD peers (Tipton et al., 2013). Specifically, children with intellectual disabilities experience significantly less warmth/closeness and positive reciprocity in their friendships. Researchers asserted that the intellectual disabilities acted as a buffer within friendships, as associated behavior problems and social skill challenges negatively impacted friendship quality levels (Tipton et al., 2013). Hoza et al. (2005) utilized sociometric assessments to investigate the differences in in peer acceptance levels between elementary-aged students with and without attention-deficit hyperactivity disorder (ADHD). Results determined that 52% of students with ADHD were deemed peer-rejected, compared to only 10% of their TD peers (Hoza et al., 2005).

Diamond et al. (1993) reached similar conclusions utilizing social network analysis in early childhood inclusion settings. Researchers analyzed interactions between students with disabilities and TD peers and concluded that after gender, disability was the second most influential factor in children accepting a peer or identifying them as a friend. They also found low levels of positive reciprocity and asserted that physical and cognitive impairments of students with disabilities limit their ability to fully participate in the cooperative and imaginative play popular with young children ultimately making students with disabilities less desired as play partners (Diamond et al., 1993). Similar to the impairment effects that influence teacher attitude toward disability and inclusion (Worth, 2013), degree and type of disability have a significant impact on peer attitudes (De Boer et al., 2012). TD peers tend to have more positive attitudes towards peers with physical disabilities and more negative attitudes towards peers with intellectual disabilities and behavioral problems (De Boer et al., 2012).

Given these findings, paired with the fact that social acceptance and peer culture are linked to individual academic achievement (Flook et al., 2005; Lynch et al., 2013), peer attitudes toward classmates with disabilities as well as quality of social interactions and friendship between TD peers and students with disabilities should be considered as underlying influencers in the patterns of low academic achievement in students with disabilities in the inclusion setting.

Conclusion

The preceding review of the literature briefly discussed the quantity of SE teachers, quality of special education instruction, and low levels of parent involvement and collaboration as contributing factors to the patterns of low academic achievement of

students with disabilities in the United States. The primary focus of the review, framed by the sociocultural theory, was the investigation of the impact of teacher and peer attitudes toward disability on the social participation and ultimately academic achievement of students with disabilities in inclusion settings. When considering school-based feasibility of action and intervention, teacher and peer attitudes emerge as the factor with the greatest potential for change. The positive attitudes that teachers and peers exhibit in theory, demonstrates great potential for the eventual integration of these beliefs into action in the classroom when paired with interventions and the elimination of logistical barriers. In the following needs assessment, the researcher will focus on the impact of teacher and peer attitudes toward disability on the social participation and academic achievement of students with disabilities in inclusion settings.

Chapter 3: A Needs Assessment

Goals and Objectives

This needs assessment examined an elementary school in a large urban public school system in the Mid-Atlantic. Throughout this needs assessment, the school will be referred to as Green Academy. The purpose of this needs assessment was to investigate the efficacy of special education services in inclusion setting provided at Green Academy. Additionally, it explored the influence teacher and peer attitudes toward disability have on the social participation and academic achievement of students with disabilities at this school. Ultimately, this needs assessment supported the need for an intervention to increase social participation and academic achievement levels of students with disabilities receiving inclusion services at Green Academy.

Research Questions

The following research questions investigated the attitudes of Green Academy's teachers and peers toward disability as well as the current social participation levels of students with disabilities in Green Academy's inclusion settings:

RQ1: How are students with disabilities socially accepted by their TD peers in inclusion settings?

RQ2: How does friendship quality vary between students with and without disabilities?

RQ3: In what ways does the disability label affect GE teacher perceptions of students with disabilities?

RQ4: How does the disability label affect GE teacher's academic expectations of students with disabilities?

Stakeholders

The examination of students with disabilities' patterns of low social participation and academic achievement in inclusion settings is valuable to education policy makers nationally as they create special education legislation influencing the setting of provided services as well as recommendations regarding LRE. In this needs assessment specifically, Green Academy administration, GE teachers and SE teachers will benefit from the detailed examination of students with disabilities academic achievement levels and an analysis of the impact that teacher and peer attitudes toward disability have on the academic achievement of students with disabilities within their school. While Green Academy's mission statement asserts that the school's goal is to "ensure high quality, engaging and effective teaching and learning, everyday in every setting for every student," the latest data, detailed below, illuminates that this goal is not yet a reality. The research conducted in this needs assessment provides Green Academy stakeholders with information and recommendations to move towards meeting that goal. Additionally, the students with disabilities and their families stand to benefit from this research, as their social participation and academic achievement levels greatly impact their life opportunities.

Existing Data

Mirroring the national chronic achievement gap (Blackorby et al., 2010; Chudowsky et al., 2009), the students with disabilities at Green Academy fall significantly below their TD peers in academic achievement. In Green Academy's four early childhood classrooms in the 2013-2014 school year, while the general student population achieved 92% of the academic yearly growth goals, students with disabilities,

including developmental delay, Autism, and hearing impairment, achieved only 58%. Additionally, in the testing grades at Green Academy (third through fifth grade), general education students were 76.9% proficient in reading and 75.9% proficient in math, while students with disabilities were only 20% proficient in reading and 22.5% proficient in math. A similar gap is reflected in the district-wide standardized test scores, referred later as "XPS." XPS is a large, urban school district with 111 schools serving over 46,000 students, 15% of which are in special education. District-wide, general education students were 74.2% proficient in reading and 78.1% proficient in math, while students with disabilities were only 17.7% proficient in reading and 20.5% proficient in math. These statistics demonstrate the need for Green Academy, and more largely XPS, to examine the factors influencing their students with disabilities achievement gap.

Methodology

This needs assessment was designed to investigate the impact of teacher and peer attitudes on students with disabilities academic achievement and the social participation levels of students with disabilities at Green Academy. A survey adapted from De Boer's (2012) Attitude Survey for Inclusive Education-Teacher (ASIE-T) was administered to Green Academy's GE teachers in the spring of 2015.

Setting. Green Academy is a medium-sized neighborhood elementary school in the Mid-Atlantic, serving 362 students in grades preschool through fifth grade. The recent gentrification in the region significantly transformed the Green Academy student population over the past five years, leading to Green Academy losing it's Title I status in the 2011-2012 school year. Presently, the student population is 65% Caucasian, 19% African American and 8% Hispanic with 11% of students qualifying for free and reduced

meals. Green Academy provides inclusion special education services to 30 students with IEPs. Of the school's 18 classrooms, 15 are presently inclusion settings, with one or more students with disabilities receiving their education and related services within the general education setting.

Participants. Twenty-three surveys were distributed to Green Academy's GE teachers and GE specials teachers (gym, art, music, library, language, science) at a staff meeting. Nineteen teachers returned surveys for an 83% response rate. Respondents were 89% female and 94% Caucasian. Additionally, all respondents held at least a master's degree in education.

Variables. This survey aimed to examine the cognitive, affective, and behavioral components of both peer and teacher attitudes. Additionally, regarding peer attitudes, the survey aimed to measure the social participation levels of students with disabilities in Green Academy inclusion settings. As discussed in the previous chapter, Koster et al. (2009) define social participation as interaction, peer acceptance, friendship and social-self perception; however, this paper will focus primarily on peer acceptance and friendship.

The teacher variables in the survey included levels of philosophical support, support from school, ability, preparedness and confidence in meeting the needs of students with disabilities in the inclusion setting. Additionally, the survey investigated teacher's academic expectations of students with disabilities in their classrooms. The peer variables were levels of peer acceptance, friendship quality and interaction quality. Additionally, demographic information was also collected for teachers.

Data collection methods. This study collected quantitative data using a survey instrument adapted from De Boer's (2012) ASIE-T. The researcher reworded questions on the ASIE-T to reflect Green Academy's school site context and added seven questions to investigate peer attitudes. The survey included six demographic questions: professional role, years of teaching experience, highest degree, gender, total number of students in class and total number of students with disabilities in class. Twenty-eight Likert-type questions investigated teacher attitude. These questions consisted of statements regarding teacher's philosophical support, support from school, ability, preparedness and confidence in meeting the needs of students with disabilities in their inclusion classrooms, and their academic expectations of students with disabilities in their classroom. Teachers indicated their degree of agreement on a seven-point Likert-type rating scale, ranging from strongly agree to strongly disagree. Three example questions are: (a) It is feasible for me to teach children with average abilities and exceptional needs in the same classroom, (b) students with disabilities have the right to be educated in the same classroom as typically developing students, and (c) I expect students with disabilities to meet the academic expectations of my grade level by the end of the school year.

Seven Likert-type questions, created by the researcher, investigated peer attitude. These questions consisted of statements regarding peer acceptance, friendship quality and interaction quality. Teachers indicated their degree of agreement on a five-point Likert-type rating scale, ranging from never to always. Three example questions are: (a) TD students are accepting of students with disabilities in our classroom, (b) TD students invite students with disabilities to play at recess, and (c) students with disabilities have strong friendships with TD students in our classroom.

Initial Summary of Results

Survey data was examined for patterns in the three main components of teacher and peer attitude: cognitive, affective, and behavioral. Descriptive statistics revealed patterns regarding teacher and peer attitudes toward disability. Disparities were found in the cognitive, affective, and behavioral components of the attitude of both populations. For example, while Green Academy's GE teachers support the inclusion model broadly and philosophically (100% of respondents agreed or strongly agreed that students with disabilities have the right to be educated in the same classroom as typically developing students), their attitudes are more complicated regarding the effectiveness of inclusion within their own classroom and school contexts. The key findings for each research question are detailed below.

Research question 1: Peer acceptance and kindness. Research Question 1 explored the level of social acceptance and kindness experienced by students with disabilities in Green Academy's inclusion classrooms. Survey results indicated that peer acceptance levels were moderately high. The majority of teachers reported TD students in their classrooms were sometimes (36.36%) and often (54.55%) accepting of students with disabilities, with two participants even reporting students were always (9.09%) accepting. No teachers reported that students were rarely or never accepting of students with disabilities. Furthermore, survey results indicated that peer kindness levels were moderate. The majority of teachers reported TD students were sometimes (57.8%) kind to students with disabilities in their classrooms, with others indicating they were often (21%) kind and rarely kind (21%).

Research question 2: Friendship quality. Research Question 2 examined levels of friendship quality experienced by students with disabilities in Green Academy's inclusion classrooms. Survey questions examined students with disabilities' friendship quality levels through teacher reports of TD peers behavioral attitudes toward students with disabilities. Survey results indicated that students with disabilities' friendship quality levels were very low. When asked if students with disabilities have strong friendships with TD peers in their classrooms, a majority of teachers responded rarely (63.1%), and others responded never (10.5%). Additionally, a majority of teachers reported that TD peers rarely (57%) or never (10.5%) invited students with disabilities to be their partners in the classroom and sometimes (63.1%) or rarely (15.7%) invited students with disabilities to play at recess.

Research question 3: GE teacher perceptions of students with disabilities. Research Question 3 examined the ways in which the disability label affected GE teacher perceptions of students with disabilities. Survey results indicated mixed findings regarding teacher's reported levels of confidence, ability, and preparedness in meeting the needs of students with disabilities in their classrooms. Typically, teachers demonstrated willingness to make adaptations for students with disabilities in their classroom but reported less confidence in being able to do so effectively. For example, 100% of respondents agreed or strongly agreed that they were willing to adapt curriculum to meet the needs of students with disabilities in their classroom, however, only 57% agreed or strongly agreed they were confident in independently adapting curriculum to meet the needs of students with disabilities in their classroom. Other notable results were that 78% of respondents somewhat disagreed or disagreed that they had enough time and

resources to independently adapt curriculum to meet the needs of students with disabilities in their classroom and that 63.1% agreed GE teachers cannot meet the individual needs of students with disabilities alone.

Research question 4: GE teacher academic expectations of students with disabilities. Research Question 4 investigated GE teachers' academic expectations of students with disabilities in their classroom. Results indicate that Green Academy's GE teachers hold significantly higher academic expectations of TD students than the students with disabilities in their classrooms. All of the respondents either agreed or strongly agreed that they expected TD students to meet the academic expectations of their grade level by the end of the year. Most of Green Academy's GE teachers reported, however, that they somewhat disagreed (68%) or disagreed (10.5%) that they expected students with disabilities to meet the academic expectations of their grade level by the end of the school year. Additionally, 100% of respondents agreed or strongly agreed that TD students were set up for success in their classroom, while only 52% said the same for students with disabilities.

Discussion

This survey reveals a salient theme in teacher and peer attitudes at Green Academy, also prevalent in the literature (Nikolaraizi et al., 2005; Scruggs & Mastropieri, 1996), cognitive and affective attitudinal components often differ from the behavioral component. This is especially true with peer attitudes. Although teachers reported that students were accepting and kind to students with disabilities in their classroom, these positive cognitive and affective attitudes are not reflected in daily behavior and interactions. This is demonstrated by Green Academy's students with disabilities low

friendship quality levels and infrequent invitations to play at recess or work as partners in the classroom as reported by teachers. Green Academy teacher attitudes also reflect dissonance, as philosophical support of inclusion and willingness to include students with disabilities in their general education classroom is high, however, mixed levels of reported ability, preparedness, and confidence result in expectations of students with disabilities in their class being low. The disconnect between philosophy and action, in both friendship and teaching, is a potential factor influencing the low academic achievement of Green Academy's students with disabilities.

From the needs assessment data, friendship quality stands out as a variable with significant room for improvement and intervention. Specifically, students with disabilities friendship strength received the lowest overall rating from teachers. This data, as well as considerations regarding feasibility, and Green Academy staff support, resulted in the author continuing the study with an exclusive focus on the impact of peer attitudes on the social participation and academic achievement gaps experienced by students with disabilities in inclusion settings.

Chapter 4: Intervention Literature Review

There are multiple research-based disability awareness interventions (DAIs) currently available for students preschool through college. While their methods vary widely, the goal of DAIs is to increase knowledge, attitudes and acceptance of people with disabilities (Lindsay & Edwards, 2013). DAIs fall into three main categories: cognitive, behavioral, and cognitive-behavioral. While some DAIs focus on disability in general (Favazza & Odom, 1997; Miller, Cooke, Test, & White, 2003) others focus on specific disabilities such as cerebral palsy (Ison et al., 2010), physical disability (Krahe & Altwasser, 2006), or Tourette Syndrome (TS) (Holtz & Tessman, 2007) and others focus on a specific combination of multiple disabilities (Colwell, Thompson, & Burke, 2001). Common components used in DAIs include presentation of information, discussions, structured story times, structured interactions, puppet shows, videos, simulations, and demonstrations. The most effective DAIs included multiple components, specifically combining an information-based component with a contact component (Favazza & Odom, 1997; Ison et al., 2010; Krahe & Altwasser, 2006). Overall, research has yielded mixed results on the outcomes of these interventions (Lindsay & Edwards, 2013), and their disparate levels of effectiveness are discussed below.

Cognitive (Information-Based)

Cognitive, or information-based, interventions aim to positively influence peer attitudes toward disability by diminishing stereotypes and improving children's degree of knowledge about disability. Common cognitive intervention components include presentation of information (Ison et al., 2010), structured story times (Cameron & Rutland, 2006), videos (Holtz & Tessman, 2007), and group discussions (De Boer et al.,

2014). The mixed results of cognitive DAIs are discussed below.

Several studies demonstrate the potential of structured storytelling components to positively influence the attitudes of children toward disability (De Boer et al., 2014; Favazza & Odom, 1997). Cameron and Rutland (2006) extend the analysis by comparing the impact of decategorization and intergroup storytelling approaches on the attitudes and intended behavior of elementary-aged children. During six 45-minute sessions, teachers read books to children that portrayed friendships between students with and without disabilities and facilitated subsequent group discussions. Teachers in the decategorization intervention emphasized the individual identities of characters while teachers in the intergroup model emphasized the typicality and category memberships of characters. Data from interviews and attitude surveys revealed that while both interventions significantly improved students' cognitive and affective attitudes toward disability, only the intergroup intervention also significantly improved children's behavioral attitudes (Cameron & Rutland, 2006). Ostrosky et al. (2015) support this finding in their discussion of effective questions for storytelling components in DAIs. They assert that all group discussions should include questions that comprise the following four main elements: story content, explanation of disability and related vocabulary, equipment related to the story, similarities between the main characters in the book and the children that listen to the book (Ostrosky et al., 2015). These findings highlight the additional impact of framing and wording intervention scripts, prompts and discussion questions through an intergroup lens.

Holtz and Tessman (2007) investigated the impact of the *You've Got a Friend* video intervention on the attitudes of children, aged seven to fifteen, toward peers with

TS. The ten-minute video, that explained what TS is, looks like, and feels like, resulted in significantly increased knowledge as well as improved cognitive, affective and behavioral attitudes toward peers with TS immediately following the video screening (Holtz & Tessman, 2007). Long-term effects of the intervention are unknown as no follow-up data was collected. Colwell et al. (2010) experienced much different results in an elementary school music class. Researchers implemented a DAI consisting of three information-based sessions, using both multimedia presentation and discussion components to increase knowledge about people, and specifically musicians with disabilities. Comparisons of attitude surveys before and after the intervention demonstrated no significant impact on students' attitudes toward disability (Colwell et al., 2010). While the effects of cognitive-based DAIs are mixed (Colwell et al., 2010; Holtz & Tessman, 2007), their impacts are significantly enhanced when integrated with behavioral components, especially high-contact components (Favazza & Odom, 1997; Krahe & Altwasser, 2006). This outcome will be examined more thoroughly in the discussion of cognitive-behavioral interventions below.

Behavioral (Simulation-Based and Contact-Based)

Behavioral interventions aim to positively influence peer attitudes toward disability through a variety of interactive experiences. Most behavioral DAIs are either simulation-based or contact-based (Lindsay & Edwards, 2013). Simulation-based interventions give participants opportunities to experience what it is like to have a disability (Flower, Burns, & Bottsford-Miller, 2007). Examples include playing basketball in a wheel chair, navigating school hallways with impaired vision, and reading a book with disorganized text (Flower et al., 2007). Contact-based interventions are on a

continuum of high to low contact, giving participants various opportunities to interact with people with disabilities. Examples of high-contact interventions are free or structured play (Favazza & Odom, 1997), structured lunch groups (Miller et al. 2003), and demonstrations or presentations facilitated by adults with disabilities (Hutzler, Fliess-Douer, Avraham, Reiter, & Talmor, 2007; Ison et al., 2010). An example of a low-contact intervention would be participants being exposed to people with disabilities by seeing them in a common space with no direct interaction (Favazza & Odom, 1997). There are mixed results of behavioral DAIs.

Pivik, McComas, Macfarlane, and Laflamme's (2002) DAI featured a virtual reality computer program simulating physical and attitudinal barriers experienced by people with physical disabilities in wheelchairs. The virtual reality program significantly improved upper elementary students' knowledge and understanding of the physical and attitudinal barriers faced by people with physical disabilities (Pivik et al., 2002). However, no follow-up tests were conducted to measure the persistence of the improvement. On the contrary, Colwell et al. (2001) found that a three-session intervention simulating six disabilities during vocal and instrumental activities during music did not result in significant improvement of the attitudes of elementary-aged students toward disability. In fact, data analysis demonstrated a slight decrease in attitude levels (Colwell et al., 2001). Disability simulation interventions have been criticized throughout the literature for their potential negative effects on attitude (Flower et al., 2007). For students with little knowledge of disabilities, an intervention that relies exclusively on simulation tasks may highlight new differences and barriers they did not previously consider (Flower et al., 2007). Researchers designing interventions in the

future should keep this risk in mind, combining other cognitive and behavioral intervention strategies with disability simulation tasks to balance the new knowledge of barriers with empathy, information and interaction.

Hutzler et al. (2007) found both simulation-based and demonstration-based interventions to be effective in improving the cognitive and behavioral attitudes of high school students toward disability. There was no significant impact on affective attitude. The simulation-based intervention consisted of a one-hour activity simulating mobility impairments as students played basketball in wheelchairs. The demonstration-based intervention consisted of a 30 minute demonstration of a national wheel-chair basketball team followed by a question and answer session between students and players. Both DAIs resulted in significantly increased cognitive and behavioral attitudes immediately following the intervention, however, again, no long-term follow-up measure was taken (Hutzler et al., 2007). Simulation-based interventions have been historically criticized throughout the literature for their brief effects (Flower et al., 2007).

Five years following his work with demonstration-based and simulation-based athletic DAIs, Hutzler collaborated with Ozer et al. (2012) to investigate the ability of an athletic contact-based intervention to improve the attitudes of TD middle school males toward disability. The treatment group included 38 males without disabilities and 38 males with a learning disability. This group participated in a Special Olympic Unified Sports soccer program for three 90-minute sessions over the course of eight weeks. Researchers (Ozer et al., 2012) used pre-test and post-test measurements of the Friendship Activity Scale (FAS) and Adjective Checklist (ACL) to measure attitude change, concluding that participants in the treatment group demonstrated a significant

increase in cognitive and affective attitudes toward disability but no significant change in their behavioral attitudes following the soccer program. Long-term effects were not measured in this study either (Ozer et al., 2012).

In another contact-based behavioral DAI, Miller et al. (2003) examined the impact of the 'Friendship Circle' intervention on the quality of social interactions between three elementary-aged students with disabilities and their TD peers. Each Friendship Circle, comprised of four TD students and one student with a disability, participated in a series of team building activities and group discussions for 30 minutes a week over nine weeks during student lunchtime. Analysis of observations and sociograms yielded mixed results. Following the intervention, two students demonstrated significant increases in appropriate peer interactions at lunch, friendly interactions at recess and reciprocal friendships, as well as significant decreases in inappropriate interactions at lunch, no interactions at lunch, unfriendly interactions at recess and moments of isolation at recess. The third student demonstrated an increase in appropriate interactions at lunchtime, however, no increase of friendly interactions at recess and no increase in reciprocal friendships (Miller et al., 2003). While this contact-based intervention study led to mixed results (Miller et al., 2003), the impact of behavioral interventions, especially contact-based components, is increased when effectively combined with cognitive-components such as presentation, group discussions and structured storytelling (Favazza & Odom, 1997; Krahe & Altwasser, 2006). This promising integrative approach is discussed below.

Cognitive-Behavioral (An Integrative Approach)

Favazza and Odom's (1997) seminal 'Special Friends' intervention program laid the groundwork for integrative DAIs for young children by examining the impact of combining high and low contact components with storytelling and discussion interventions on the attitudes of kindergarteners toward disability. Three 15-minute storytelling and discussion sessions were implemented three times a week over nine weeks with books selected based on recommendations from the Anti-Bias Curriculum (Derman-Sparks, 1989). Children in the high-contact group participated in 15-minute structured play sessions with students with disabilities in the classroom following each storytelling session as well as 15-minute free play sessions with students with disabilities on the playground during their normal recess time on intervention days. Children in the low-contact group saw students with disabilities in the cafeteria and playground. A multiple analysis of variance (MANOVA) of survey data collected from the Acceptance Scale for Kindergarteners (ASK) revealed that only children participating in the high-contact storytelling and discussion combination group experienced significant gains in attitude and acceptance levels. These gains persisted on a follow-up test five months later. Favazza and Odom (1997) concluded that for significant long-term change on the attitudes of young children toward disability, interventions should combine cognitive components with high-contact behavioral components. More recent research done by Krahe and Altwasser (2006), Ison et al. (2010), and De Boer et al. (2014) expanded on the methodology and found additional evidence supporting Favazza and Odom's (1997) conclusion.

Krahe and Altwasser (2006) compared the effectiveness of a purely cognitive intervention to a combined cognitive-behavioral intervention on improving the attitudes

of ninth graders toward physical disability. The cognitive intervention included two 90-minute sessions comprised of lecture and group discussions. Topics included personal experiences with physical disabilities as well as a historical overview of disability rights and the Paralympic Games. Researchers found the cognitive intervention to have no significant impact on students' attitudes. The cognitive-behavioral intervention consolidated the content discussed above into one 90 minute session and was supplemented by a second 90 minute session in which students participated in a variety of games with disabled athletes. This integrative intervention resulted in significant improvements in student attitudes toward people with physical disabilities both immediately after and three months after the intervention (Krahe & Altwasser, 2006), supporting the Favazza and Odom's (1997) assertions regarding the power of cognitive-behavioral interventions which include high contact to result in long-term positive change in attitudes toward disability.

Similarly, in a mixed-methods study, Ison et al. (2010) examine the impact of 'Just Like You," a cognitive-behavioral DAI, on the knowledge, attitudes and acceptance levels of fifth graders toward disability. The 'Just Like You," intervention combined information dissemination and high-contact during two 90-minute sessions comprised of information presentation and group discussions co-facilitated by an adult with cerebral palsy. Quantitative results demonstrated significant improvements in knowledge, attitude and acceptance levels in participants. Qualitative results emphasized the influence of the high-contact component, as a majority of students cited interacting with the adult with cerebral palsy as the most meaningful and favorite part of the experience. Further, they voiced interest in wanting to interact with more people with disabilities in their own lives

and recommended interventionists include additional people with disabilities into the program in the future (Ison et al., 2010).

In an integrative DAI for kindergartners, De Boer et al. (2014) modified the structured storytelling component of Favazza and Odom's (1997) 'Special Friends' program by reducing intervention length to six-45 minute lessons. Additionally, disability simulation activities were substituted as the behavioral component in the place of contact with students with disabilities. Using the Acceptance Scale for Kindergarten-revised (ASK-R) to measure attitudes before and after the intervention compared to a control group, the authors found a significant positive effect on kindergarteners' attitudes toward disability. One year later, however, all effects disappeared. This study demonstrates a successful example of positively influencing young children's' attitudes toward disabilities in the short term, however, the findings support Favazza and Odom's (1997) conclusion that cognitive intervention programs are not successful in the long-term when they are not paired with high contact with peers with disabilities. The brief effects of De Boer et al.'s (2014) six-session intervention can be explained by Rillotta and Nettelbeck's (2007) study, which examined the impacts of duration length on long-term impact. Rillota and Netttelbeck (2007) found that while the 8-session and 10-session versions of their cognitive-behavioral intervention resulted in long-term significantly improved attitudes toward disability, the 3-session version of the same intervention resulted in no significant impact. These results highlight the potential shortcomings of shorter training programs, even with the successful integration of cognitive-behavioral components.

Conclusion

Cognitive-behavioral DAIs, specifically those that give students the opportunity

to interact with people with disabilities, are effective methods to improve peer attitude toward disability. Because improved peer attitudes toward disability increase students with disabilities social participation (Nowicki & Sandieson, 2002), and increased social participation is associated with academic achievement (Lynch et al., 2013), cognitive-behavioral DAIs have the potential to ameliorate the significant social participation and achievement gaps experience by students with disabilities in the United States. Consequently, in the following study, the researcher will implement a cognitive-behavioral DAI in Green Academy's kindergarten classrooms in an attempt to improve peer attitudes toward disability and the social participation of students with disabilities in an inclusion setting.

Chapter 5: Intervention Procedure and Program Evaluation

Goals and Objectives

The needs assessment demonstrated the presence of a significant social participation gap between Green Academy's students with and without disabilities. A majority of teachers reported that students with disabilities rarely (63.1%) or never (10.5%) experienced strong friendships with TD peers in their classrooms. Additionally, the needs assessment uncovered a pattern of TD peers in Green Academy's inclusion classrooms to hold negative behavioral attitudes toward disability. A majority of teachers reported that TD peers rarely (57%) or never (10.5%) invited students with disabilities to be their partners in the classroom and sometimes (63.1%) or rarely (15.7%) invited students with disabilities to play at recess. The purpose of this evaluation is to investigate the efficacy of a cognitive-behavioral DAI to improve peer attitudes toward disability and increase the social participation, specifically social interaction and friendship, of students with disabilities in Green Academy's inclusion kindergarten classrooms.

Social Participation in Kindergarten

Sociocultural theory emphasizes the importance of play and interaction with same-aged peers on the cognitive development of young children. Lev Vygotsky (1978) asserts, "the influence of play on a child's development is enormous" (p. 96). Child development research characterizes friendship as a cornerstone of kindergarten (Piaget, 1952; Vygotsky, 1978; Wood, 2007). Five-year old children are largely egocentric, however, they begin to develop meaningful friendships with peers and regularly seek out particular friends to engage in preferred activities. At this age, children typically initiate and sustain socio-dramatic play and cooperative games from 10-15 minutes at a time. It is

typical for children this age to form a strong bond with a friend, however, their close friendships often change every few weeks (Piaget, 1952; Teaching Strategies, 2001; Wood, 2007). Six-year old children begin to maintain friendships for several months or more and are able to utilize pro-social skills to work through conflict and remain friends after a disagreement. They plan and negotiate complex roles during socio-dramatic play, create and monitor complex rules during cooperative games and may sustain play over a period of several days (Piaget, 1952; Teaching Strategies, 2001; Wood, 2007).

Treatment Theory

Rossi, Freeman, and Lipsey (2007) assert that successful causal research must identify the black box of interest, an input to be manipulated and a measurable outcome of interest. In this study, it is expected that the implementation of a nine-week cognitive-behavioral DAI in a Green Academy inclusive kindergarten classroom will lead to the improvement of the attitudes of TD peers toward disability. Based on the interaction between peer attitudes, social participation, and academic achievement described Chapter 2 it is expected that the DAI will lead to improved peer attitudes toward disability, increased social participation, and increased academic achievement for students with disabilities in the treatment classroom in the short, intermediate, and long-term respectively. This treatment of theory is illustrated in Figure 1.

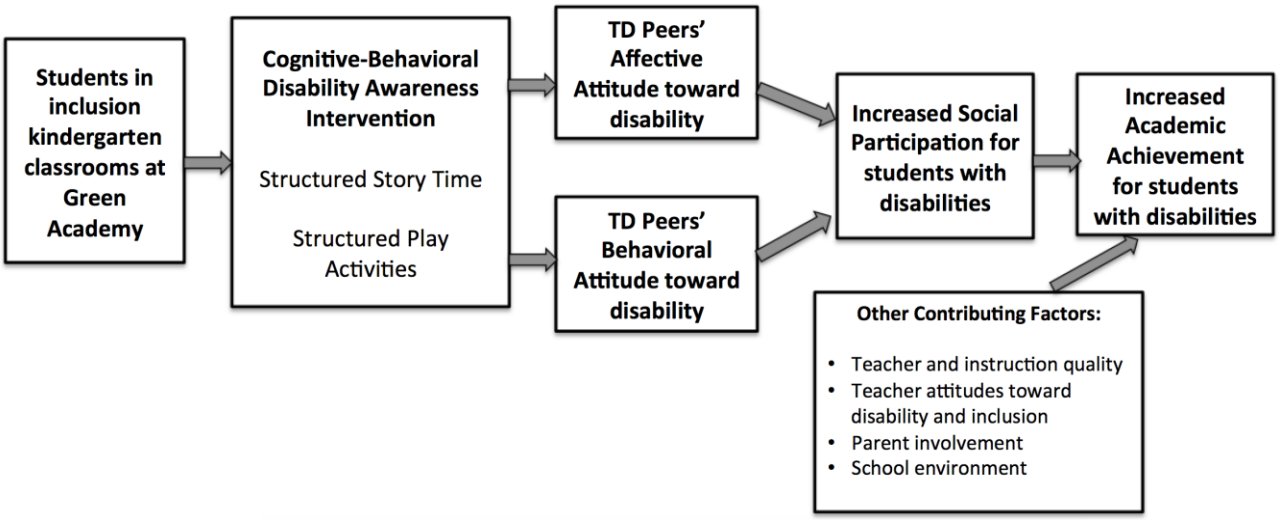

Figure 1. Cognitive-behavioral DAI treatment theory.

Mixed Method Approach

This evaluation will use a mixed-methods approach to investigate the efficacy of the implementation of a cognitive-behavioral DAI in Green Academy's inclusion kindergarten classrooms. The researcher will utilize a convergent parallel design, implementing quantitative and qualitative methods concurrently with equal priority and mixing the results in the interpretation phase (Creswell & Clark, 2011). The mixed-methods approach, valued for its ability to provide "multiple ways of seeing and hearing" (Greene, 2007, p. 20), was chosen to provide triangulation and complementarity of multiple data points.

Research Questions

The following research questions will investigate the efficacy of a cognitive-behavioral DAI to influence the social participation of students with disabilities and the attitudes of typically developing peers toward disability in inclusive settings:

RQ1: How does the implementation of a cognitive-behavioral DAI influence the affective and behavioral attitudes of typically developing peers toward disability?

RQ2: In what ways does the implementation of a cognitive-behavioral DAI impact the time students with disabilities spend engaged in isolated play, parallel play, positive interactions with peers and negative interactions with peers?

RQ3: How does the implementation of a cognitive-behavioral DAI influence the social network and number of reciprocal friendships for students with disabilities within the classroom?

RQ4: To what extent is the cognitive-behavioral DAI implemented in compliance with the researcher's intended quality and quantity in Green Academy's kindergarten inclusion classroom?

Methods

Participants. Green Academy has three inclusion kindergarten classrooms. Two of the three classrooms will be randomly selected to participate in the study. Students from one classroom will participate in the intervention and one classroom will act as a control group. On average, Green Academy's kindergarten inclusion classrooms are comprised of 1-3 students with disabilities and 20-22 students without disabilities. The author will aim for full participation in the intervention from the students in the randomly selected classrooms, offering two information sessions for parents about the cognitive-behavioral DAI in the fall of 2016 to garner support and investment from the parent community.

Procedure. ***Intervention methodology.*** The cognitive component of the intervention will be a structured story time based on Favazza and Odom's (1997) seminal 'Special Friends' program in which teachers read books to children that portray friendships between students with and without disabilities and facilitate subsequent group

discussions. While Favazza and Odom (1997) based their original book selection on recommendations from the Anti-Bias Curriculum (Derman-Sparks, 1989), a list of more modern literature featuring characters with disabilities was published by Ostrosky et al. (2015). This newer list, comprised of eighteen books, was constructed using Nasatir and Horn's (2003) nine guidelines for selecting children's literature that appropriately represents individuals with disabilities (Ostrosky et al., 2015). The researcher will use the eighteen books suggested by Ostrosky et al. (2015) and incorporate nine additional books that meet Nasatir and Horn's (2003) inclusion guidelines ultimately creating a set of 27 books for the intervention. Storytelling prompts and discussion questions used in the cognitive component will utilize an intergroup storytelling approach, which emphasizes the typicality of characters with disabilities as opposed to the decategorization approach, which emphasizes the individual differences of characters with disabilities. Cameron and Rutland (2006) found that while both intergroup and decategorization storytelling approaches used in cognitive DAIs significantly improved students' overall attitudes toward disability, only the intergroup approach also significantly improved the children's intended behaviors. The study will include a total of 27 storytelling and discussion sessions, lasting 20 minutes each, occurring three times a week over a period of nine weeks for the randomly selected treatment classroom. The intervention will take place during Green Academy's daily "Brain Block," a forty-minute block set aside specifically for intervention and enrichment opportunities for students grades kindergarten through second grade.

The behavioral component of the intervention will be a high-contact structured play activity. Following every storytelling session, discussed above, students will move

outdoors to participate in whole-group team building activities and games. Nine games will be selected specifically for high levels of interaction and each will be played three times throughout the 27 structured play sessions. Examples of games include pyramid tag, relay obstacle courses, and fishy fishy cross my ocean. Each structured play session will last for 15 minutes, allowing for a five-minute transition between the cognitive and behavioral component of the intervention.

***Data collection*.** This study will utilize a mixed-methods approach to investigate the efficacy of a cognitive-behavioral DAI in Green Academy's inclusion kindergarten classrooms. The ASK-R, created by Favazza et al. (2000) will be used to measure change in typically developing peers' attitudes toward disability. A social network survey, based on the work of Cairns and Cairns (1994), will be used to measure the quantity of reciprocal friendships experienced by students with disabilities. Observations during participants' regular recess time will measure the levels of social interaction for students with disabilities. Each observer will be assigned one student with a disability to observe. Over a span of 15 minutes, an observer will categorize every 30-second interval as one of the following: positive interaction, negative interaction, parallel play, and isolation. Additionally, the observer will record the number of invitations to play made and received. All three measurement tools will be used before, during, immediately after and three months after treatment. The researcher will utilize participants' regular "Brain Block" time to collect three-month follow-up data. Finally, focus group interviews with participants and field notes from playground observations will be used to triangulate data collected from the ASK-R, social network survey and playground observations.

Measurement tools. This study will utilize three discrete measurement tools. The ASK-R, created by Favazza et al. (2000), will be used to measure the affective and behavioral attitudes of typically developing peers toward disability. Students will be read 18 questions describing a child with a disability and then answer questions on a 3-point scale examining their attitudes toward the child described. The 3-point scale, designed by authors to be developmentally appropriate for kindergarteners, utilizes a happy, neutral, and sad face to represent answer of yes, maybe and no respectively. As recommended by the authors (Favazza & Odom, 1997), the survey will be administered in small groups of five or less children.

The two components of social participation of students with disabilities being directly measured in the study are peer interaction and friendship. The interaction of students with disabilities will be measured during observations of free play on Green Academy's playground during the students' regular recess time. The researcher developed a social participation observation protocol, monitoring time engaged in positive, negative and neutral interactions, time spent in isolation, and number of invitations to play made and received. Three of Green Academy's teaching partners will be trained to implement the measure effectively. A social network survey, based on the procedures of Cairns and Cairns (1994), will be used to measure friendship quantity and reciprocation for students with disabilities. All students in the classroom will be asked to list their favorite three friends in class and to indicate their best friend with a star sticker. Participant responses illustrate the students' view of who their best friend is as well as who is in their closest circle of friends, yielding a comprehensive social network sociogram of the classroom. The researcher will compare the number of reciprocal best-

friendships and close-friendships between students with disabilities and their peers before, during, after and three months after the intervention.

Data analysis. All survey and observational data will be entered into spreadsheets on a secure computer following collection. The researcher will run a t-test to compare the changes in affective and behavioral attitudes toward disability between TD peers in the treatment and control classroom. Additionally, the researcher will use descriptive statistics to compare the changes in number of reciprocal friendships experienced by students with disabilities in the treatment and control classroom. Observational data will be coded and analyzed through descriptive statistics to measure the change in social interaction levels of students with disabilities before, during, immediately after, and three months after treatment. Finally, the researcher will scan focus group interview transcripts and field notes for salient themes to triangulate the data collected in the ASK-R, social network survey and playground observations.

Fidelity of Implementation

Fidelity of implementation is the degree to which intervention and evaluation methods and dosages are implemented as originally designed (Dusenbury, Brannigan, Falco, & Hansen, 2003). Fidelity of implementation is imperative in research that aims to measure intervention outcomes as failure to implement with fidelity may lead to Type III errors and ultimately invalid results (Dusenbury et al., 2003). Fidelity of implementation is crucial in the use of DAIs as previous research highlights adherence to specific wording in discussion facilitation (Cameron & Rutland, 2006) and consistent dosage and scheduling (Rillotta & Nettelbeck, 2007) as variables that significantly impact the outcomes of DAIs with young children. Consequently, research question four will assess

the extent to which both the quality and quantity of the DAI is implemented as the principal investigator intends.

Research question four investigates the DAI's adherence (quality) and dosage (quantity). Evaluation of adherence will include measures that assess the extent to which both the cognitive component and behavioral component of the DAI are implemented by the researcher as originally intended. Evaluation of dosage will include measures that assess the degree to which the original intervention schedule is followed and the attendance of participants. Given the multidimensional and dynamic environment of public schools, the program will be considered to have high fidelity if each of the four indicators is assessed at 95% fidelity. If any of the four indicators is below 95% the program will be considered to have low fidelity. The data collection methods for each of the four fidelity of implementation indicators is discussed below.

Cognitive component discussion adherence. The researcher has developed a fidelity of implementation discussion checklist, located in the Appendix, that monitors the consistency of an intergroup lens and the inclusion of discussion questions that meet Ostrosky et al.'s (2015) four main elements: story content, explanation of disability and related vocabulary, equipment related to the story, similarities between the main characters in the book and the children that listen to the book. Once a week, over the nine-week intervention, the researcher will complete the fidelity of implementation discussion checklist to measure adherence to discussion guidelines immediately after implementing the intervention.

Behavioral component adherence. The behavioral component of this DAI, an opportunity for structured play between students with and without disabilities, is based on

previous research that demonstrate the ability of high-contact interventions to improve peer attitude toward disability (Favazza & Odom, 1997). To achieve high-contact it is required that both participant population, students with and without disabilities, are actively participating in the team building game or activity with the group. To measure adherence to high-contact interaction between both participant populations, the researcher has developed a play participation observation checklist that monitors that participation of both populations. Once a week, over the nine-week intervention, the researcher will use the play participation checklist to measure adherence to high-contact expectations during the intervention.

Schedule adherence. Multiple cognitive-behavioral DAI studies analyzing the effects of DAIs implemented at various lengths highlight the weakness of shorter training programs failing to result in long-term outcomes (De Boer et al., 2012; Rillotta & Nettelbeck, 2007). Consequently, it is imperative that the cognitive-behavioral DAI in this study be implemented with all 27 sessions over the nine week period as intended. In the school setting, there are myriad obstacles to maintaining a consistent intervention schedule including holidays, inclement weather school cancellations, school-wide assemblies, field trips, drills (fire, earthquake, lockdown etc.), teacher absences and student medical and behavior emergencies. The researcher has taken measures to prevent these obstacles such as working with administration and teachers to plan the school assembly schedule and field trip schedule to prevent conflict with the intervention, however, some of these obstacles are inherently unpredictable. To measure schedule adherence the researcher will keep a daily log recording the implementation of both the cognitive and behavioral component of the DAI for all 27 planned sessions.

Participant attendance. Participant attendance is another variable that has potential to negatively impact intervention dosage. Even when all potential scheduling conflicts are avoided, the intervention dosage will be negative impacted if a participant does not attend school on an intervention day, whether it be due to illness, vacation or personal reasons. The principal investigator purposefully selected to implement the DAI in the fall, as Green Academy records indicate this to be the season with highest attendance rates, however, participant attendance remains as a variable that is difficult to control. To measure participant attendance the researcher will maintain a participation log that takes the attendance of each participant in the treatment classroom at the beginning of each intervention session.

Logic Model

The logic model found in the Appendix clearly illustrates the inputs, outputs, and expected outcomes of the treatment. The most integral components of the treatment, the cognitive and behavioral elements of the DAI itself, are explicitly labeled in the logic model and supported by the necessary inputs, including funding, space and time and outputs including measurement tools, literature curation, and stakeholder engagement.

Research supports the ability of cognitive-behavioral DAI's, such as this one, to produce the short, medium and long term outcomes specified in the model: improved peer attitude (Cameron & Rutland, 2006; De Boer et al., 2014; Favazza & Odom, 1997; Holtz & Tessman, 2007), increased social participation (Nowicki & Sandieson, 2002; Stoneman, 1993), and increased academic achievement (Flook et al., 2005; Lynch et al., 2013). Specifically, the success of Favazza and Odom's (1997) 'Special Friends' DAI supports the plausibility that 27 thirty-minute structured story times and 27 thirty-minute

structured play sessions, administered over nine weeks in an inclusive kindergarten setting is a sufficient and proper dosage to produce significant change.

Summary Matrix

The alignment between the study's research questions, variables and data collection procedures is illustrated in Table 1.

Table 1

Evaluation Summary Matrix

Research Question	Variable	Data Source	Frequency	Responsibility
How does the implementation of a cognitive-behavioral DAI influence the cognitive, affective and behavioral attitudes of TDPs toward disability?	TD Peer Affective Attitude TD Peer Behavioral Attitude	ASK-R	Four times: Before, halfway through, immediately after and three months after treatment	Principal Investigator
Does the implementation of a cognitive-behavioral DAI increase the social interaction of students with disabilities?	Student with Disability Social Interaction	Playground Observations	Eight Times: Twice before, halfway through, immediately after and three months after treatment	Principal Investigator and Teaching Partners
How does the implementation of a cognitive-behavioral DAI influence the quantity of reciprocal friendships for students with disabilities?	Student with Disability Friendship Reciprocity	Social Network Survey	Four times: Before, halfway through, immediately after and three months after treatment	Principal Investigator
To what extent is the cognitive-behavioral DAI implemented in compliance with the researcher's intended quality and quantity in Green Academy's kindergarten classroom?	Cognitive Adherence	Fidelity Checklist	Once a week	Principal Investigator
	Behavioral Adherence	Fidelity Checklist	Once a week	
	Schedule Adherence	Session Log	Every session	

Participant Attendance	Participation Log	Every session

Chapter 6: Data Analysis and Findings for Program Evaluation

The following chapter provides comprehensive analysis and discussion of the results from the mixed-methods data collected in this study. The chapter begins with a description of the participants in the inclusive kindergarten classrooms functioning as the treatment and control groups. The data analysis is organized by the four research questions outlined in Chapter 5, including a review of the intervention's fidelity. Themes supported by multiple data points are discussed and supported by patterns in the students' perspectives emerging from the focus group interview. Finally, limitations of this study are discussed and recommendations are made for future education practice and research. In the end, the implementation of the cognitive-behavioral DAI had a positive influence on the attitudes of typically developing (TD) peers toward disabilities and some elements of the social participation of students with disabilities in inclusion kindergarten classrooms.

Participants

As previously outlined in Chapter 5, this study randomly selected two of Green Academy's three inclusion kindergarten classrooms to participate in the study. Students from classroom A participated in the intervention and students in classroom B acted as the control group. Throughout this chapter, pseudonyms will be used when references are made to specific participants. Classroom A comprised 21 students, three of whom had disabilities. Ben and Max are both five-year old males with developmental delays. Aubrie is a five-year old female with a severe hearing impairment. Aubrie wears hearing aids and has an American Sign Language interpreter with her at all times in the classroom and on the playground. Classroom A's students were 66% male and 81% Caucasian.

Classroom B comprised 20 students, three of whom had disabilities. All three students with disabilities, John, Will, and Zach, are five-year old males with developmental delays. Classroom B's students were 70% male and 80% Caucasian.

In Classroom A, 20 of 21 families provided consent for their child to participate in the study. In Classroom B, all 20 families provided consent for their child to participate, however, one child left Green Academy four weeks into the intervention to be home schooled. In the end, there were 20 and 19 participants in the treatment and control groups respectively, with three students with disabilities in each of the groups. Implications regarding gender and disability category composition in the groups are discussed later in the chapter.

Research Question 1: Peer Attitudes Toward Disability

Research Question 1 explored how the implementation of a cognitive-behavioral DAI influenced the affective and behavioral attitudes of TD peers toward disability. The ASK-R, an 18 question developmentally appropriate survey created by Favazza et al. (2000), was used to measure the affective and behavioral attitudes of TD peers toward disability before, during, immediately after, and three months after the intervention. ASK-R scores range from 0-36 with high scores reflecting more positive attitudes toward disability and low scores representing more negative attitudes toward disability (Favazza & Odom, 1996). Mean pre-test ASK-R scores for participants in the treatment and control groups were 19.94 and 19.25 respectively. Immediately following the intervention, the mean ASK-R scores for participants in the treatment group increased by 9.4 points to 29.35, while participants in the control group increased by only 1.38 points to 20.63. The increase in ASK-R scores for participants in the treatment group was

maintained at the three-month follow-up measure. The ASK-R scores means for the treatment and control groups before, immediately after, and three months after the study are illustrated in Figure 2 below.

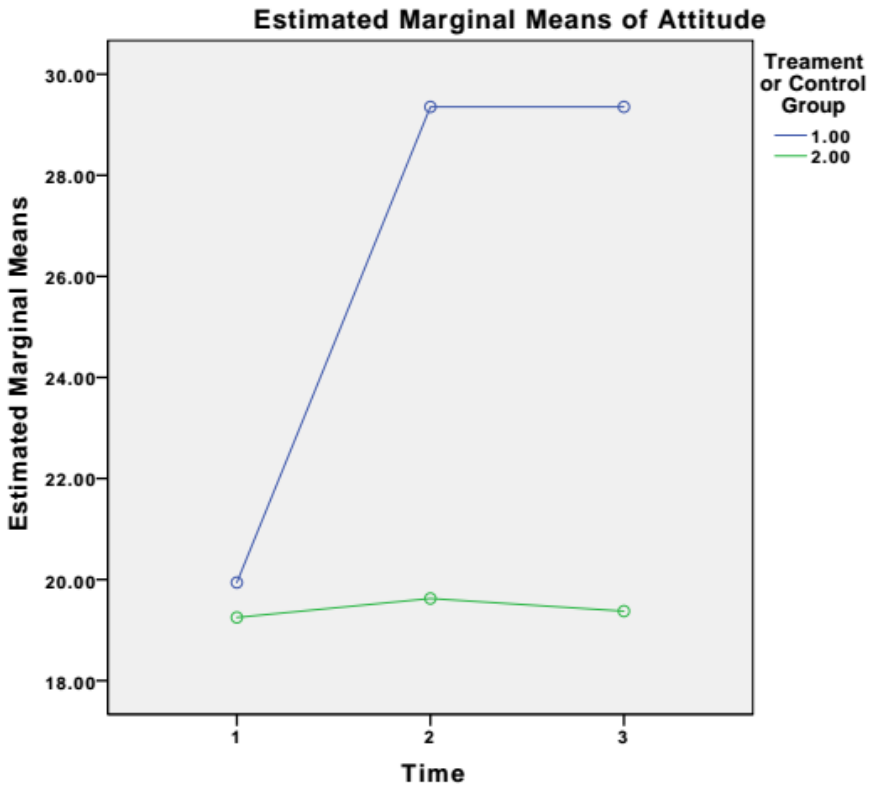

Figure 2. Treatment and control ASK-R score means.

A mixed ANOVA, investigating the effects of treatment and time, revealed participation in the cognitive-behavioral DAI led to a statistically significant increase in affective and behavioral attitudes toward disability ($p = .000$). Results of the mixed ANOVA demonstrate significant effects for both within-group, $F(2, 62) = 46.13$, $p = .000$, and between-group measures, $F(2, 62) = 41.48$, $p = .000$. Below, Table 2 illustrates the comparison of change in ASK-R scores for participants in the treatment and control groups.

Table 2

Descriptive Statistics: Affective and Behavioral Attitude Toward Disability

Group	ASK-R Score		
	Pre-Test	Post-Test	3 Month Follow-Up
Treatment	19.94	29.35	29.29
Control	19.25	20.62	21.18

Research Question 2: Social Interaction of Students with Disabilities

Research Question 2 examined the ability of a cognitive-behavioral DAI to influence the social interactions of students with disabilities in inclusive settings. As outlined previously in Chapter 5, social interaction observations were conducted during the participants' regular recess time. The duration of each social interaction observation was 15 minutes. The principal investigator developed a social participation observation protocol, monitoring time engaged in positive, negative and neutral interactions, time spent in isolation, and number of invitations to play made and received. During each observation, the observer categorized every 30-second interval as one of the following: positive interaction, negative interaction, parallel play, or isolation. Additionally, the observer recorded the number of invitations to play made and received using corresponding tally marks. Two social interaction observations were conducted for each participant before, during, immediately after, and three months after the intervention. Observational data indicated students with disabilities in the treatment group experienced a substantial increase in positive interactions with peers as well as a decrease in isolation after the intervention. Below, Table 3 illustrates the changes in time engaged in positive,

negative interactions, parallel play, and time spent in isolation for the treatment and control groups before and after the intervention.

Table 3

Social Interaction Observations

Participant	Group	Positive		Negative		Parallel		Isolation	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
Aubrie	Treatment	21.6%	63%	10%	5%	31.6%	16.6%	36.6%	15%
Ben	Treatment	11.6%	35%	31.6%	20%	20%	33.3%	36.6%	11.6%
Max	Treatment	18.3%	43.3%	15%	15%	35%	33.3%	31.7%	8.3%
John	Control	15%	16.6%	30%	35%	16.6%	25%	38.3%	23.3%
Will	Control	20%	33.3%	13.3%	10%	26.6%	38.3%	40%	18.3%
Zach	Control	25%	21.6%	15%	16.6%	30%	35%	30%	26.7%

When averaged together, students with disabilities who participated in the intervention experienced a 29.96% increase in positive interaction, a 5.57% decrease in negative interactions, and a 23.34% decrease in isolation during their regular outdoor recess time. Parallel play averages were consistent before and after the intervention. In contrast, students with disabilities in the control group experienced a 3.83% increase in positive interaction, an 8.37% increase in parallel play, an 8.3% decrease in negative interactions, and a 13.34% decrease in isolation during their regular outdoor recess time. The most significant difference between the treatment and control group is the increase in positive play experienced by students with disabilities (29.96% versus 3.83%). The treatment and control groups demonstrated a 23.34% and 13.34% decrease in isolation respectively. However, the disparity in increases in positive and parallel play between the

groups suggest participants in the treatment group transformed their previous time of isolation into positive interactions while the control group transformed their previous time of isolation into more parallel play.

A comparison of invitations to play made and received before and after the intervention illustrates a decrease in invitations made and an increase in invitations received for participants in the treatment group. Before the intervention, students with disabilities in the treatment group initiated nine invitations to their peers to play and received two invitations from their peers to play. After the intervention, the same group initiated five invitations to their peers to play and received ten invitations from their peers to play. The increase in invitations to play received by their peers could be explained by the significant increase in the TD peers' affective and behavioral attitudes toward disability discussed above. Previous research supports that peers' attitudes towards disability influences social participation (Nowicki & Sandieson, 2002; Stoneman, 1993). While not previously discussed in the literature, the decrease in invitations made to peers could be explained by the substantial increase in positive interactions and decrease in isolation experienced by participants, ultimately decreasing the need for participants to initiate an invitation to join in play with their peers. Table 4 illustrates the changes in invitations to play made and received by participants in the treatment and control groups before and after the intervention.

Table 4

Play Invitations Observations

Participant	Group	Made		Received	
		Pre	Post	Pre	Post
Aubrie	Treatment	4	2	0	3
Ben	Treatment	3	2	1	3
Max	Treatment	2	1	1	4
John	Control	0	0	0	0
Will	Control	4	3	0	2
Zach	Control	2	3	1	1

Research Question 3: Reciprocal Friendships for Students with Disabilities

Research Question 3 explored the ability of a cognitive-behavioral DAI to influence the quantity of reciprocal friendships and best-friendships experienced by students with disabilities in inclusion kindergarten classrooms. A social network survey, based on the procedures of Cairns and Cairns (1994), was used to measure friendship quantity and reciprocation for students with disabilities. Each participant listed their three closest friends in their class and then placed a sticker next to who they consider to be their best friend.

Reciprocal friendships. Analysis of social network surveys demonstrated that all three students with disabilities who participated in the intervention experienced an increase in reciprocal friendships. Aubrie had one reciprocal friendship before the intervention, three reciprocal friendships immediately after the intervention, and maintained two reciprocal friendships three months after the intervention. Ben and Max

had zero reciprocal friendships before the intervention and one reciprocal friendship immediately after the intervention. Ben maintained his reciprocal friendship three months after the intervention. In the control group, all three participants had zero reciprocal friendships at the beginning of the study. Two of the participants continued to have zero reciprocal friendships immediately after and three months after the study. Will gained one reciprocal friendship over the intervention's nine-week timeframe that was maintained three months later. All together, the students with disabilities who participated in the cognitive-behavioral DAI gained four reciprocal friendships over the intervention's nine- week period, three of which were maintained three months later, while the students with disabilities in the control group gained one reciprocal friendship throughout the same time period. Table 5 illustrates participants' changes in reciprocal friendships throughout the study.

Table 5

Reciprocal Friendship Data

Participant	Group	Reciprocal Friendships			
		Pre-test	Midpoint	Post-test	Follow-up
Aubrie	Treatment	1	2	3	2
Ben	Treatment	0	0	1	1
Max	Treatment	0	1	1	0
John	Control	0	0	0	0
Will	Control	0	0	1	1
Zach	Control	0	0	0	0

Reciprocal best-friendships. Analysis of social network surveys demonstrated that two out of three students with disabilities who participated in the intervention experienced an increase in reciprocal best-friendships. All three students with disabilities in the treatment group began the intervention without a reciprocal best-friendship. Aubrie and Ben gained a reciprocal best-friendship by the end of the program, both of which were maintained three months later. None of the students in the control group experienced a reciprocal best-friendship before or after the study. Overall, two out of three students who participated in the intervention gained a reciprocal best-friendship, while zero of the students in the control group gained a best-friendship in the same period of time. Table 6 illustrates participants' changes in reciprocal best-friendships throughout the study.

Table 6

Reciprocal Best-Friendship Data

Participant	Group	Reciprocal Best-Friendship			
		Pre-test	Midpoint	Post-test	Follow-up
Aubrie	Treatment	No	Yes	Yes	Yes
Ben	Treatment	No	No	Yes	Yes
Max	Treatment	No	No	No	No
John	Control	No	No	No	No
Will	Control	No	No	No	No
Zach	Control	No	No	No	No

Research Question 4: Fidelity of Implementation

Previous research demonstrates that fidelity of implementation, specifically adherence (Cameron & Rutland, 2006) and dosage (Rillotta & Nettelbeck, 2007), significantly impact the outcomes of DAIs with young children. Accordingly, research question 4 investigated the extent to which the cognitive-behavioral DAI was implemented in compliance with the researcher's intended quality and quantity as measured by the following four indicators: cognitive component discussion adherence, behavioral component adherence, schedule adherence, participant attendance. As discussed in Chapter 5, it was determined that the program will be considered to have high fidelity if each of the four indicators was assessed at 95% fidelity. Cognitive component discussion adherence had 100% fidelity, behavioral component adherence had 98% fidelity for TD peers and 100% fidelity for students with disabilities, schedule adherence had 100% fidelity, and participant attendance had 96.08% fidelity for TD peers and 95.06% for students with disabilities. As a result, the program is considered to have high fidelity for both quality and quantity. The specific measures of all four fidelity of implementation indicators are discussed below.

Cognitive component discussion adherence. Once a week throughout the nine-week intervention, the principal investigator completed a fidelity of implementation checklist monitoring the inclusion of discussion questions that meet Ostrosky et al.'s (2015) four main elements of a high quality DAI immediately after implementation. The checklists revealed a 100% adherence to discussion guidelines. The principal investigator had utilized small post-its throughout the book as a visual reminder of each pre-planned discussion question, which may have contributed to 100% adherence.

Behavioral component adherence. Once a week throughout the nine-week intervention, the principal investigator completed a play participation checklist to monitor the participation of both the TD peer and students with disabilities to ensure high-contact was achieved. The play participation checklists revealed a 98% participation rate for TD peers and a 100% participation rate for students with disabilities. Two participants who were periodically asked to take five-minute breaks to calm down and refocus impacted the participation rate for TD peers. On one occasion, one of the TD peers missed all 15 minutes of a structured play session due to a severe misbehavior during the transition from the cognitive component in the classroom to the behavioral component outdoors.

Schedule adherence. The cognitive-behavioral DAI intervention was scheduled to take place every Tuesday, Wednesday, and Thursday for nine-weeks during the treatment classroom's 40-minute Brain Block. The principal investigator utilized a daily log recording the implementation of the cognitive and behavioral components of the intervention as originally scheduled. Throughout the course of the intervention, only one session was rescheduled due to the principal investigator's absence. This session was consequently rescheduled during the next week. Overall, 100% of the sessions were implemented and 96.3% of sessions were implemented on the day and time originally scheduled.

Participant attendance. At the beginning of each intervention session, the principal investigator recorded the participants who were present in a participation log. There were 18 total absences for TD peers, resulting in a 96.08% attendance rate for TD peers. There were four total absences for students with disabilities, resulting in a 95.06% attendance rate for students with disabilities.

Focus Group Coding Analysis

Additional qualitative data was collected through a semi-structured focus group interview in order to add student voice and integrate participant perspective into data analysis. The semi-structured focus group interview was conducted with five randomly selected participants from the treatment group. In Excel, the treatment group population was separated into two strata: TD students and students with disabilities. Next, Excel software was used to randomly select four out of the 17 students who were TD and one of the three students with disabilities. The principal investigator will use the pseudonyms Olivia, Felix, Charlie, and Sam to refer to the four TD peers and Aubrie to refer to the student with a disability that was selected to participate in the focus group interview.

The principal investigator and the five randomly selected participants had lunch together in a conference room in Green Academy, where the principal investigator conducted a semi-structured focus group interview using nine pre-determined guiding questions found in the Appendix. The interview lasted 22 minutes and yielded 8 pages of transcripts and 68 applications of 8 codes. The principal investigator isolated the transcribed responses of each participant and using Excel, created a spreadsheet that organized each participant's contribution to the conversation of each guiding question. As recommended by Saldana (2016), during this pre-coding stage, the principal investigator highlighted striking passages and quotes that stood out as having potential to be used as illustrative examples for the coding analysis.

Saldana (2016) asserts that researchers should utilize manual coding when working with small-scale data sets. With only one focus-group interview, it was manageable to perform manual descriptive coding of the interview transcript using

Microsoft Word. The nine guiding questions used during the semi-structured interview were intentionally designed to be open-ended and not provide participants with key words or specific themes to discuss. Consequently, no pre-existing codes were used during the coding process. In the first cycle of coding, the principal investigator followed Saldana's (2016) recommendation to use formatting as the first phase of analysis. The transcript text was separated into short paragraph units, initiating a unit break whenever there is a change in topic. Next, the principal investigator manually created descriptive codes to document the opinions and multiple perspectives of participants (Saldana, 2016). Based on Saldana's (2016) codes to theories model, a second cycle of coding organized and grouped similarly coded data into themes. Additionally, under the theme of similarity, the broad connection code was subdivided into personal connection and literary connection.

The following themes emerged: knowledge, similarity, and friendship. Participants demonstrated new knowledge acquired by sharing descriptions of various disabilities as well as facts about each disability. Participants emphasized similarity to the content of the cognitive component by explicitly relating the material to their personal lives, previous experiences, and literary connections. Finally, participants discussed friendship and kindness, emphasizing the importance of accepting and including others regardless of difference. Table 7 shows the three themes, corresponding codes, and the frequency of each code.

Table 7

Codes and Themes for Focus Group Interview

Theme	Code	Frequency
Knowledge	Disability Description	6
	Disability Fact	10
Similarity	Personal Connection	14
	Previous Experience	7
	Literary Connection	5
Friendship	Acceptance	10
	Inclusion	9
	Togetherness	7

Knowledge. During the cognitive component of the intervention, participants were read a total of 27 books featuring characters with seven different disabilities: physical disability, intellectual disability, Autism spectrum disorder, spina bifida, cerebral palsy, hearing impairment, and visual impairment. The children were eager to share their knowledge about the disabilities they had read about, often talking over one another to be the first to describe or give information about a disability. “My favorite was the books about Moses, who was deaf,” Felix shared. Olivia jumped into to share, “Some people are born deaf, but you can also hear for a little bit in the world and then have something happen like a very, very, very, really loud noise or really bad cold and then you can get deaf later.” Sam added that “deaf people can still talk through sign language and feel music vibrations if their feet are on the ground or if they hold a balloon,” and Charlie added that “hearing aids can help people hear better.” Throughout the

conversation, the children demonstrated basic knowledge about four of the seven disabilities featured in the cognitive component of the intervention: Autism spectrum disorder, hearing impairments, visual impairments, and physical disabilities.

Similarity. The most common occurrence throughout the interview was children recognizing and sharing personal connections they had with the characters with disabilities featured in the cognitive component of the intervention. The children mentioned shared interests such as "I like to run fast like the mom in a wheelchair loved to zoom fast," "our class went to a music concert just like Moses," and "my family goes camping like the little girl who was blind with a cane went camping with her family." Aubrie stated that her favorite book from the intervention was *Friends at School* because the children in the book did the same things that her class did at school.

There were also multiple connections made between the characters with disabilities and other important people in the children's lives. For example, Olivia explained, "we read some books about kids with Autism, who might think and play a little different, you know like always watching the Frisbee spin and some things are too loud it bothers them, and I actually already know a friend who has Autism from my soccer team." Shortly afterward Felix shared that he "liked the book with the wheelchairs and crutches because my grandpa has to use those sometimes to walk, so I know those, and I love my grandpa so now my friends know about his crutches." Five children described connections between the characters with disabilities and plots in the books read during the intervention and the characters and plots of other books they had read at school or home. These connections were prompted by question three, which asked

participants if the books read during the intervention were similar or different from the typical books they read in class.

Friendship. Questions five and six asked what participants felt like they had learned from our sessions together and whether or not our sessions together made them think differently about anything. These questions elicited responses about friendship and kindness. Children expressed that the prominent lesson from our sessions together was that "everyone is different but we can all be friends." All of the participants discussed acceptance of others regardless of differences and the importance of including all people during play in class and at recess. Three children directly mentioned the inclusion of Aubrie, the child with a severe hearing impairment who was also randomly selected to be a part of the focus group interview. Sam explained, "Some people need things like wheelchairs, extra teachers, speech, and medicines… Some people need hearing aids like Aubrie. I thought the things in her ears were making her not be able to hear, but it is really to help her hear and Aubrie has hearing aids but she is our good friend. Everyone at school can be friends together."

Discussion

This research study supported the previous work of Favazza and Odom (1997) and De Boer et al. (2014) by demonstrating that TD peers who participated in the nine-week cognitive-behavioral DAI experienced a statistically significant increase in their affective and behavioral attitudes toward disability. This study expanded upon these findings by demonstrating that students with disabilities who participated in the cognitive-behavioral DAI experienced an increase in positive interactions, and decreases in negative interactions and isolation when playing with peers on the playground. In

addition, the study illustrated the potential for cognitive-behavioral DAIs to increase the quantity of reciprocal friendships and best-friendships experienced by students with disabilities in inclusion classrooms.

The theoretical work of Vygotsky (1978) emphasizes the power that social connections, interactions, and relationships have on learning. A student's social experience greatly influences their success in school (Lynch et al., 2013) and outcomes in adulthood due to increased levels of self-worth and interpersonal competence (Buhrmester, 1996; Orsmond et al., 2013). It is imperative that schools are intentionally designing their curriculum, environment, and culture to promote high levels of social participation for all students. Research demonstrates that currently schools are failing to support high levels of social participation for students with disabilities in inclusion settings (Diamond et al., 1993; Hoza et al., 2005; Tipton et al., 2013). This study demonstrates the effectiveness of cognitive-behavioral DAIs to positively influence the social participation of students with disabilities in inclusion settings, however, further research with a larger sample size is required.

Limitations

This research study served as a small-scale pilot of a cognitive-behavioral DAI for inclusion kindergarten classrooms in Green Academy's school district. The small scale of the study contributed to several limitations including sampling methods, sample size, and sample composition. These limitations may limit the generalizability of the findings to inclusion kindergarten classrooms in different classroom contexts in the future.

As mentioned above, one limitation to the research study was the sampling methods that were utilized. The principal investigator worked at the school site for seven

years prior to the study. As a result, the principal investigator had previously been the early childhood teacher of four participants in classroom A and two participants in Classroom B, had previously taught a sibling of 1 participant in classroom B, and had interacted with many other participants and family members throughout the previous seven years. These previously established relationships between the principal investigator, participants, and participants' families may have influenced both parents and students to provide consent to participate in the research study.

Another limitation to the study was the small sample size of 20 participants in the treatment group (17 typically developing and 3 with disabilities) and 19 participants in the control group (16 typically developing and 3 with disabilities). The small sample size impacted the power of the statistical analyses conducted, particularly the variables that were only measured for participants with disabilities (friendship reciprocity and social interaction). Elements of the sample composition may have also impacted the findings of the study. First, both the treatment group and control group were heavily male and Caucasian. Second, only 9% of the student population at Green Academy receives free and reduced meals, while the average for their school district is 76%. These demographics limit generalizabity within the school system and to African American and low-income student populations across the country. This limitation is of great significance due to the widely demonstrated overrepresentation of African American and low-income students receiving special education services in the United States (Artiles et al., 2005; Berhanu, 2008; Harry & Klinger, 2006). Finally, there was variance in the disability categories represented in the treatment versus control group. The treatment group comprised two participants with developmental delays and one student with a

severe hearing impairment, while all three participants in the control group had developmental delays. Additionally, there are many disability categories not represented in the study's sample. This limits the generalizability of this DAI to other inclusion kindergarten classrooms.

Recommendations

This small-scale pilot study served as a first step in investigating the effectiveness of this cognitive-behavioral DAI program. The following section will review implications and recommendations for educators in the classroom. Next, recommendations for next steps and future research on cognitive-behavioral DAIs in inclusion classrooms based on the results and limitations of this research study are discussed.

Educator practice. The results of this research study can be applied to the daily practice of educators in inclusion kindergarten classrooms. Elements of the cognitive component of the intervention can be applied directly to educators' practice during read-a-louds. This research study demonstrates that when using the intergroup storytelling approach, which emphasizes the typicality and commonalities between the students and characters with disabilities, reading books with characters with disabilities can improve students' attitudes toward disabilities as well as increase the positive social interaction experienced by students with disabilities at school. Previous research demonstrates that negative peer attitudes toward disability are a major barrier to the successful social participation of students with disabilities (Diamond & Huang, 2005; Lynch et al., 2013; Nowicki & Sandieson, 2002) and that students' social participation at school influences their level of their academic achievement (Holt, 2003; Lynch et al., 2013; Stoneman, 1993). Consequently, it is recommended that educators curate high quality books that

feature characters with disabilities for their classroom libraries, incorporate reading these books into their curriculum, and utilize an intergroup storytelling approach when reading the books aloud.

Elements of the behavioral component of the intervention can be applied to directly to educator's practice during recess. This research study demonstrates that facilitating high-contact and interactive games with a group of students with and without disabilities can improve students' attitudes toward disabilities as well as increase the positive social interaction experienced by students with disabilities at school. Consequently, it is recommended that administrators and educators design the school's schedule such that students with and without disabilities are on the playground at the same time to the highest extent possible. Further, in addition to free play opportunities, educators should incorporate the facilitation of high-contact, interactive games with groups of students with and without disabilities into their outdoor recess routines.

Changes could be made at the education policy level to support educators and administrators in implementing these practices at their schools and in their classrooms. Many school districts implement mandated minute policies, which set requirements for the amount of time each grade level must engage in literacy, math, science, and social studies work throughout the week. Given the ability of interventions to influence social participation, and the impact of social participation on academic achievement, policy makers should considered adding requirements for social-emotional learning and relationship building into their mandated minutes policies. Schools using the inclusion model could use time allocated by the mandated social-emotional learning minutes to implement interventions such as cognitive-behavioral DAIs to positively influence the

social participation of their students with disabilities in inclusion settings. Further, as 95% of students with disabilities are learning in inclusion settings across the United States (Aud et al., 2013; Harr-Robins et al., 2013; USDE, 2015), disability awareness should be integrated into the curriculum. Policy makers involved in the creation of Common Core Standards should integrate disability awareness and relationship building into the standards for both math and literacy.

Future research. As discussed above, the sample size and sample composition of this study limited statistical power and generalizability of this study's results. The small sample size negatively impacted the study's power and may have contributed to the difference in reciprocal friendships and best-friendships between the treatment and control group being found statistically insignificant. The demographics of the small sample also limited the study's generalizability. Consequently, in order to increase statistical power and accurate representation of the school district's demographics, it is recommended that another study be conducted that expands the sample size to include at least ten inclusion kindergarten classrooms randomly selected throughout the school district.

Other considerations for future research include investigating how the cognitive-behavioral DAI uniquely influences children with different disability categories. The sample in this study was limited to one student with a severe hearing impairment and five children with developmental delays. Future research should aim to include participants with a wider range of disabilities. In this research study Aubrie, the only participant with a low-incidence disability, experienced the largest improvements in friendship reciprocity and social interaction. Further research should examine if there is a significant difference

in the effectiveness of the intervention for different disability categories. Additionally, given the differences between how girls and boy play (Fabes, Martin, & Hanish, 2003), future research should explore how gender influences the effectiveness of the cognitive-behavioral DAI.

Empirical research reviewed in Chapter 1 illustrated the relationship between peer attitudes towards disabilities, the social participation of students with disabilities, and the academic achievement of students with disabilities (Diamond & Huang, 2005; Holt, 2003; Lynch et al., 2013; Nowicki & Sandieson, 2002; Stoneman, 1993). This study was limited to measuring the cognitive-behavioral DAI's influence on TD peers attitudes toward disabilities and the social participation of students with disabilities. Future researchers should consider implementing a more long-term study that also measures the impact on academic achievement, fully testing the treatment theory and logic model outlined in Chapter 5.

Finally, empirical research reviewed in Chapter 2 highlighted the influence of GE teacher attitudes toward inclusion and disability on the success of students with disabilities in inclusion settings (Burke & Sutherland, 2004; Everling, 2013; Scruggs & Mastropieri, 1996; Shade & Stewart, 2001). Future research should explore how implementing the cognitive-behavioral DAI influences GE teachers' attitudes toward disability. Additionally, a potential next step could be designing a complimentary professional development for GE teachers implementing the cognitive-behavioral DAI. The professional development should be designed with the intention of positively influencing GE teacher attitudes toward disability by increasing knowledge of disabilities

and confidence levels in teaching students with disabilities (De Boer et al., 2011; Scruggs & Mastropieri, 1996).

Conclusion

In conclusion, learning is a social process (Vygotsky, 1978). The negative attitudes of TD peers toward disability act as major barriers to the social and academic success of students with disabilities in inclusion classrooms (Diamond & Huang, 2005; Holt, 2003; Lynch et al., 2013; Nowicki & Sandieson, 2002; Stoneman, 1993). Theoretical and empirical research exhibited the potential for a cognitive-behavioral DAI to improve peer attitudes toward disability, positively influence the social participation of students with disabilities, and ultimately improve the academic achievement of students with disabilities in inclusion classrooms (Cameron & Rutland, 2006; De Boer et al., 2014; Ernest, 2010; Favazza & Odom, 1997; Holt, 2003; Lynch et al., 2013; Vygotsky, 1978).

This research study investigated the ability of a nine-week, cognitive-behavioral DAI to influence the affective and behavioral attitudes of TD peers toward disability, increase the social interaction of students with disabilities, and improve the quantity of reciprocal friendships and best-friendships for students with disabilities in inclusion kindergarten classrooms. Results indicated that participation in the cognitive-behavioral DAI led to a statistically significant improvement in TD peers affective and behavioral attitudes toward disability. Additionally, students with disabilities in the treatment group experienced a 30% increase in positive interaction, a 5.57% decrease in negative interactions, and a 23.34% decrease in isolation during recess time with their peers. Finally, the students with disabilities who participated in the DAI gained four reciprocal

friendships and two reciprocal best-friendships throughout the intervention. Overall, the attitudes of TD peers toward disability and the social participation of students with disabilities in kindergarten inclusion classrooms were positively influenced. While further research is needed to generalize these findings, educators can apply this study's findings in their classrooms by including high quality literature that feature characters with disabilities in their classroom libraries, incorporating reading these books into their curriculum, and utilizing an intergroup storytelling approach when reading the books aloud.

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Appendix A: Parent Permission Form (Control Group)

Johns Hopkins University
Homewood Institutional Review Board (HIRB)

Parental Permission Form | Control Group

Title: Improving Peer Attitudes Toward Disability: Parental Permission Form

Principal Investigator: Julia Sadowsky, John Hopkins University Ed.D Student

Date: March 23, 2016

PURPOSE OF RESEARCH STUDY:

The purposes of this research study is to investigate the ability of a cognitive-behavioral disability awareness intervention to improve the attitudes of typically developing peers toward disability and increase the social participation of students with disabilities in inclusion classrooms.

We anticipate that approximately 50 children will participate in this study.

PROCEDURES:

In this study, one kindergarten classroom at your child's school was randomly selected to participate in a cognitive-behavioral disability awareness intervention. The children in this classroom will participate in 27 intervention sessions over the course of nine weeks during Brain Block time. Each session will consist of a 20 minute story time and a 20 minute structured play time.

Your child's classroom has been randomly selected to participate in this nine-week study as part of the control group. This means that your child will not participate in any of the intervention activities, but will be asked to participate in data collection procedures. Children in your child's class will be asked to complete two short surveys that measure their attitude toward disabilities four times throughout the study: before the study, half way through the study, at the conclusion of the study, and three months after the conclusion of the study. Participating in the survey will take approximately 10 minutes and students will take the survey with a small group of peers during their regular "Brain Block" period. Eight times throughout the study students will be observed during their normal recess time on the playground to measure the students' levels of social participation: twice before the study, twice half way through the study, twice at the conclusion of the study, and twice three months after the conclusion of the study.

RISKS/DISCOMFORTS:

The risks associated with participation in this study are no greater than those encountered in daily life in the classroom or on the school playground.

BENEFITS:

This study may benefit typically developing students by improving their cognitive (thinks), affective (feels) and behavioural (acts) attitudes toward disability.

This study may benefit students with disabilities by improving their social participation and consequently their academic achievement.

This study may benefit society if the results lead to a better understanding of how to improve the attitudes of typically developing peers toward disability and how to increase the social participation and ultimately the academic achievement of students with disabilities in elementary inclusion settings.

VOLUNTARY PARTICIPATION AND RIGHT TO WITHDRAW:

Your child's participation in this study is entirely voluntary: You choose whether to allow your child to participate, and we will also ask your child whether he or she agrees to take part in the study. If you decide not to allow your child to participate, or your child chooses not to participate, there are no penalties, and neither you nor your child will lose any benefits to which you would otherwise be entitled.

If you and your child choose to participate in the study, you or your child can stop participation at any time, without any penalty or loss of benefits. If you want to withdraw your child from the study, or your child wants to stop participating, please contact Julia Sadowsky via phone or email: (413)271-4077, Jsadowsk@jhu.edu.

CIRCUMSTANCES THAT COULD LEAD US TO END YOUR PARTICIPATION:

Under certain circumstances we may decide to end your child's participation before he or she has completed the study. Specifically, we may stop your child's participation if we determine that their behavior is disruptive to the intervention implementation. There may also be other circumstances that would lead us to end your child's participation.

ALTERNATIVES TO PARTICIPATION:

Currently, there are no other opportunities to participate in a disability awareness intervention or a program with similar benefits at Brent Elementary School.

CONFIDENTIALITY:

Any study records that identify you or your child will be kept confidential to the extent possible by law. The records from your child's participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board and officials from government agencies such as the National Institutes of Health and the Office for Human Research Protections. (All of these people are required to keep your identity and the identify of your child confidential.) Otherwise, records that

identify you or your child will be available only to people working on the study, unless you give permission for other people to see the records.

All study records will utilize code numbers rather that participants' names. Hard copies of data will be stored in a locked file cabinet. Electronic data will be stored on the Principal Investigator's computer, which is password protected. All original electronic files will be erased ten years after collection.

COSTS

There are no costs to participate in this study.

COMPENSATION:

Your child will not receive any payment or other compensation for participating in this study.

IF YOU HAVE QUESTIONS OR CONCERNS:

You and your child can ask questions about this research study now or at any time during the study, by talking to the researcher working with you and your child by calling Julia Sadowsky at (413) 271-4077 or emailing her at jsadowsk@jhu.edu.

If you or your child have questions about your child's rights as a research participant or feel that your child has not been treated fairly, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580.

SIGNATURES

WHAT YOUR SIGNATURE MEANS:

Your signature below means that you understand the information in this consent form. Your signature also means that you agree to allow your child to participate in the study.

By signing this consent form, you have not waived any legal rights your child otherwise would have as a participant in a research study.

_____

Signature of Parent **Date**

_____

Signature of Second Parent (if required) **Date**

Signature of Legal Guardian (if applicable) **Date**

Signature of Person Obtaining Consent **Date**

Appendix B: Parent Permission Form (Experiment Group)

Parental Permission Form | Treatment Group

Title: Improving Peer Attitudes Toward Disability: Parental Permission Form

Principal Investigator: Julia Sadowsky, John Hopkins University Ed.D Student

Date: March 23, 2016

PURPOSE OF RESEARCH STUDY:

The purposes of this research study is to investigate the ability of a cognitive-behavioral disability awareness intervention to improve the attitudes of typically developing peers toward disability and increase the social participation of students with disabilities in inclusion classrooms.

We anticipate that approximately 50 children will participate in this study.

PROCEDURES:

This study will occur during your child's regular Brain Block time, three times a week over the course of nine weeks, totally 27 sessions. Each session will consist of a 20 minute story time and a 20 minute structured play time. The story time component will occur in your child's classroom and feature age-appropriate literature that includes characters with various disabilities. The structured play component will occur on the school playground and include a variety of team building activities and games (ie. pyramid tag, relay races).

Children will be asked to complete two short surveys that measure their attitude toward disabilities four times throughout the study: before the study, half way through the study, at the conclusion of the study, and three months after the conclusion of the study. Participating in the survey will take approximately 10 minutes and students will take the survey with a small group of peers. Eight times throughout the study students will be observed during their normal recess time on the playground to measure the students' levels of social participation: twice before the study, twice half way through the study, twice at the conclusion of the study, and twice three months after the conclusion of the study. At the end of the study, five students will be randomly selected to participate in a focus group discussion with the researcher to discuss their reflections on the experience and what they feel they learned during the intervention.

RISKS/DISCOMFORTS:

The risks associated with participation in this study are no greater than those encountered in daily life in the classroom or on the school playground.

BENEFITS:

This study may benefit typically developing students by improving their cognitive (thinks), affective (feels) and behavioral (acts) attitudes toward disability.

This study may benefit students with disabilities by improving their social participation and consequently their academic achievement.

This study may benefit society if the results lead to a better understanding of how to improve the attitudes of typically developing peers toward disability and how to increase the social participation and ultimately the academic achievement of students with disabilities in elementary inclusion settings.

VOLUNTARY PARTICIPATION AND RIGHT TO WITHDRAW:

Your child's participation in this study is entirely voluntary: You choose whether to allow your child to participate, and we will also ask your child whether he or she agrees to take part in the study. If you decide not to allow your child to participate, or your child chooses not to participate, there are no penalties, and neither you nor your child will lose any benefits to which you would otherwise be entitled.

If you and your child choose to participate in the study, you or your child can stop participation at any time, without any penalty or loss of benefits. If you want to withdraw your child from the study, or your child wants to stop participating, please contact Julia Sadowsky via phone or email: (413)271-4077, Jsadowsk@jhu.edu.

CIRCUMSTANCES THAT COULD LEAD US TO END YOUR PARTICIPATION:

Under certain circumstances we may decide to end your child's participation before he or she has completed the study. Specifically, we may stop your child's participation if we determine that their behavior is disruptive to the intervention implementation. There may also be other circumstances that would lead us to end your child's participation.

ALTERNATIVES TO PARTICIPATION:

Currently, there are no other opportunities to participate in a disability awareness intervention or a program with similar benefits at Brent Elementary School.

CONFIDENTIALITY:

Any study records that identify you or your child will be kept confidential to the extent possible by law. The records from your child's participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board and officials from government agencies such as the National Institutes of Health and the Office for Human Research Protections. (All of these people are required to keep

your identity and the identify of your child confidential.) Otherwise, records that identify you or your child will be available only to people working on the study, unless you give permission for other people to see the records.

All study records will utilize code numbers rather that participants' names. Hard copies of data will be stored in a locked file cabinet. Electronic data will be stored on the Principal Investigator's computer, which is password protected. All original electronic files will be erased ten years after collection.

COSTS

There are no costs to participate in this study.

COMPENSATION:

Your child will not receive any payment or other compensation for participating in this study.

IF YOU HAVE QUESTIONS OR CONCERNS:

You and your child can ask questions about this research study now or at any time during the study, by talking to the researcher working with you and your child by calling Julia Sadowsky at (413) 271- 4077 or emailing her at jsadowsk@jhu.edu.

If you or your child have questions about your child's rights as a research participant or feel that your child has not been treated fairly, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580.

SIGNATURES WHAT YOUR SIGNATURE MEANS:

Your signature below means that you understand the information in this consent form. Your signature also means that you agree to allow your child to participate in the study.

By signing this consent form, you have not waived any legal rights your child otherwise would have as a participant in a research study.

Signature of Parent **Date**

_____

Signature of Second Parent (if required) **Date**

Signature of Legal Guardian (if applicable) **Date**

Signature of Person Obtaining Consent **Date**

Appendix C: Student Assent Form

Johns Hopkins University
Homewood Institutional Review Board (HIRB)

Assent Form

Title: Improving Peer Attitudes Toward Disability: Student Assent Form

Principal Investigator: Julia Sadowsky, John Hopkins University Ed.D Student

Date: March 23, 2016

We want to tell you about a research study we are doing. A research study is a way to learn more about something. We would like to learn more about how kindergarten students feel about classmates with disabilities. You are being asked to join the study because you are in a kindergarten class at Brent Elementary School.

If you agree to join this study, you will be asked to participate in a 20 minute story time and a 20 minute play time during your Brain Block for nine weeks. There will be four times where you will meet with a small group of classmates to fill out a short survey. Also, throughout the study a researcher may sit on the playground and watch you play with your friends during recess time. At the end of the study, you may be chosen to meet with the researcher with a group of your friends to talk about what you thought about the story time and play time sessions and share what you feel that you learned from them.

We do not believe there is any risk for you to participate.

We expect that the study will help you by improving your attitude toward classmates with disabilities. We may learn something that will help children with disabilities feel welcome at school, have friends at school and learn more at school.

You do not have to join this study. It is up to you. You can say okay now and change your mind later. All you have to do is tell us you want to stop. No one will be mad at you if you don't want to be in the study or if you join the study and change your mind later and stop.

Before you say **yes or no** to being in this study, we will answer any questions you have. If you join the study, you can ask questions at any time. Just tell the researcher that you have a question.

If you want to be in this study, please sign your name. You will get a copy of this form to keep.

Sign your name here **Date**

Appendix D: Social Network Response Form

Step 1: Write the names of your 3 closest friends in class

1. _____ ☐

2. _____ ☐

3. _____ ☐

Step 2: Place your star sticker next to the name of your BEST friend in class

Appendix E: Observation Protocol Recording Form

Observation Directions: *Observers should set their timers for 30 consecutive 30-second alarms. These 30 intervals are represented in the "time interval" column of the chart below. Throughout each 30-second interval, the observer should record each invitation to play with a tally mark under the "play invitations" column. When the alarm indicated the end of a 30-second interval the observer should rate the 30-seconds as positive, neutral, negative, or isolation by using a checkmark in the "interaction rating" column.*

Time Interval	**Interaction Rating**				**Play Invitations**
	Positive	*Negative*	*Parallel*	*Isolation*	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
Calculate Totals:					

Appendix F: Cognitive-Component Fidelity of Implementation Checklist

Story Time Discussion Checklist

Element 1: Story Content			
Did the facilitator prompt students to discuss a topic directly related to story content? (plot, characters, etc.)	**Yes** ☐	**No** ☐	
Element 2: Explanation of Disability & Related Vocabulary			
Did the facilitator give a clear, developmentally appropriate definition of the disability featured in the story?	**Yes** ☐	**No** ☐	
Did the facilitator give clear, developmentally appropriate definitions of all identified vocabulary words related to the disability features in the story?	**Yes** ☐	**No** ☐	
Element 3: Equipment Related to the Story			
Did the facilitator give a clear, developmentally appropriate explanation of all equipment related to the disability featured in the story?	**Yes** ☐	**No** ☐	**N/A** ☐
Element 4: Intergroup Lens (Similarities between Characters and Participants)			
Did the facilitator verbally acknowledge a similarity or shared experience between a character with a disability and the group of participants at least 3 times?	**Yes** ☐	**No** ☐	
Did the facilitator prompt students to reflect on or discuss a personal connecting with the story's plot or characters at least once?	**Yes** ☐	**No** ☐	

Appendix G: Behavioral-Component Fidelity of Implementation Checklist

Structured Play Participation Checklist				
Participants with Disabilities				
Participant Name	**Minutes Child DID NOT Participate (DNPM)**			**Total Minutes Participated** (15- DNPM)
	Facilitator Asked Child to Take a Break (Behavior)	*Child Opted to Take a Break or Refused to Participate*	*Child Pulled Out (Related Services)*	
Total Minutes For All Children with Disabilities who Participated (TMDP)				
Total Number of Participants with Disabilities (N)				
Total Children with Disabilities Participation Percentage (TMDP/15*N)				
Typically Developing Participants				
Participant Name	**Minutes Child DID NOT Participate (DNPM)**			**Total Minutes Participated** (15- DNPM)
	Facilitator Asked Child to Take a Break (Behavior)	*Child Opted to Take a Break or Refused to Participate*	*Child Pulled Out (Related Services*	

Total Minutes For All TD Participants (TMTD)				
Total Number of TD Participants (N)				
Total TD Children Participation Percentage (TMTD/15*N)				

Appendix H: Focus Group Guiding Questions

1. Over the past nine weeks, we have spent time reading books and playing games together. How did you feel about the time we spent together?

2. What did you think about the books we read together?

3. Were the books we read together different or similar to books your normal read in class? Why?

4. What did you think about the games we played together?

5. What do you feel like you learned from our sessions together?

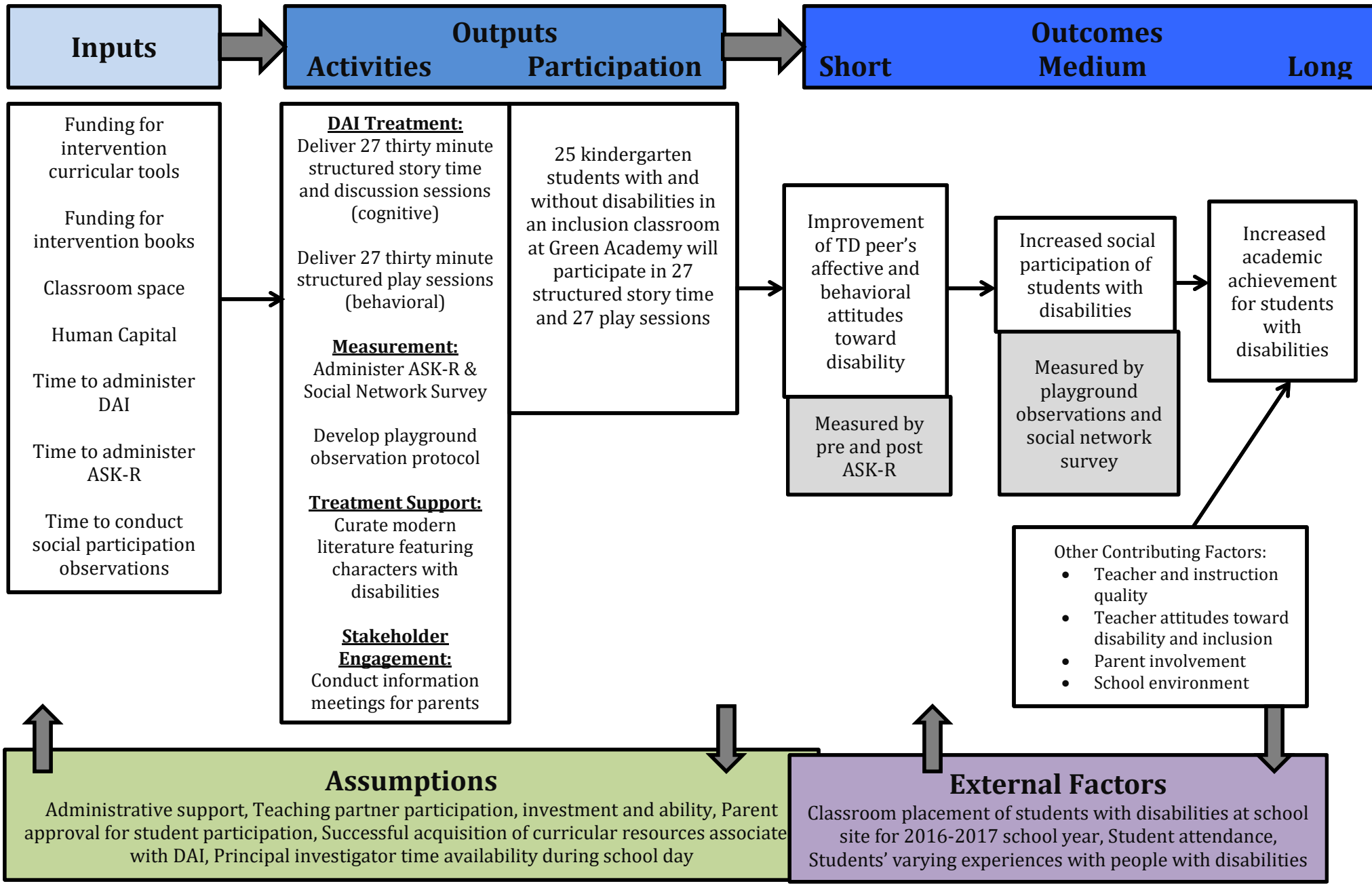
6. Did our sessions together make you think differently about anything?

7. What did you like about our sessions together?

8. What didn't you like about our sessions together?

9. Is there anything else you want to tell me about our sessions together?

Appendix I: Logic Model- Cognitive-Behavioral Disability Awareness Intervention



Appendix J: Curriculum Vitae

Julia Sadowsky

PERSONAL DATA

1350 Maryland Avenue NE

Unit 415

Washington D.C., 20003

H- (413) 271-4077

Julia.Sadowsky@gmail.com

ACADEMIC BACKGROUND

May 2017	Ed.D in Education, Johns Hopkins University (expected)
May 2012	M.A. in Early Childhood Curriculum and Instruction, George Mason University
May 2010	B.A. in Psychology, The University of Massachusetts

Significant Course Work: Disciplinary Approaches to Education, Multiple Perspectives on Teaching and Learning, Research Methods and Systematic Inquiry I and II, Special Education Research, Evaluation of Education Policies and Programs, Students with Disabilities and High Needs Schools, Policy Issues Affecting General and Special Education Relationships, Research in Early Childhood Education, Framework of Early Childhood Education

PROFESSIONAL EXPERIENCE

DC Public Schools

2016-Present	**Teacher Leader Instructor- Brent Elementary School**
2010-Present	**Early Childhood Educator- Brent Elementary School**

Teach For America

2012-2013 **Corps Member Advisor**

2011-2012 **Content Team Leader**

University of Massachusetts

2009-2010 **Research Assistant- Growth in Early Marriage Project**